

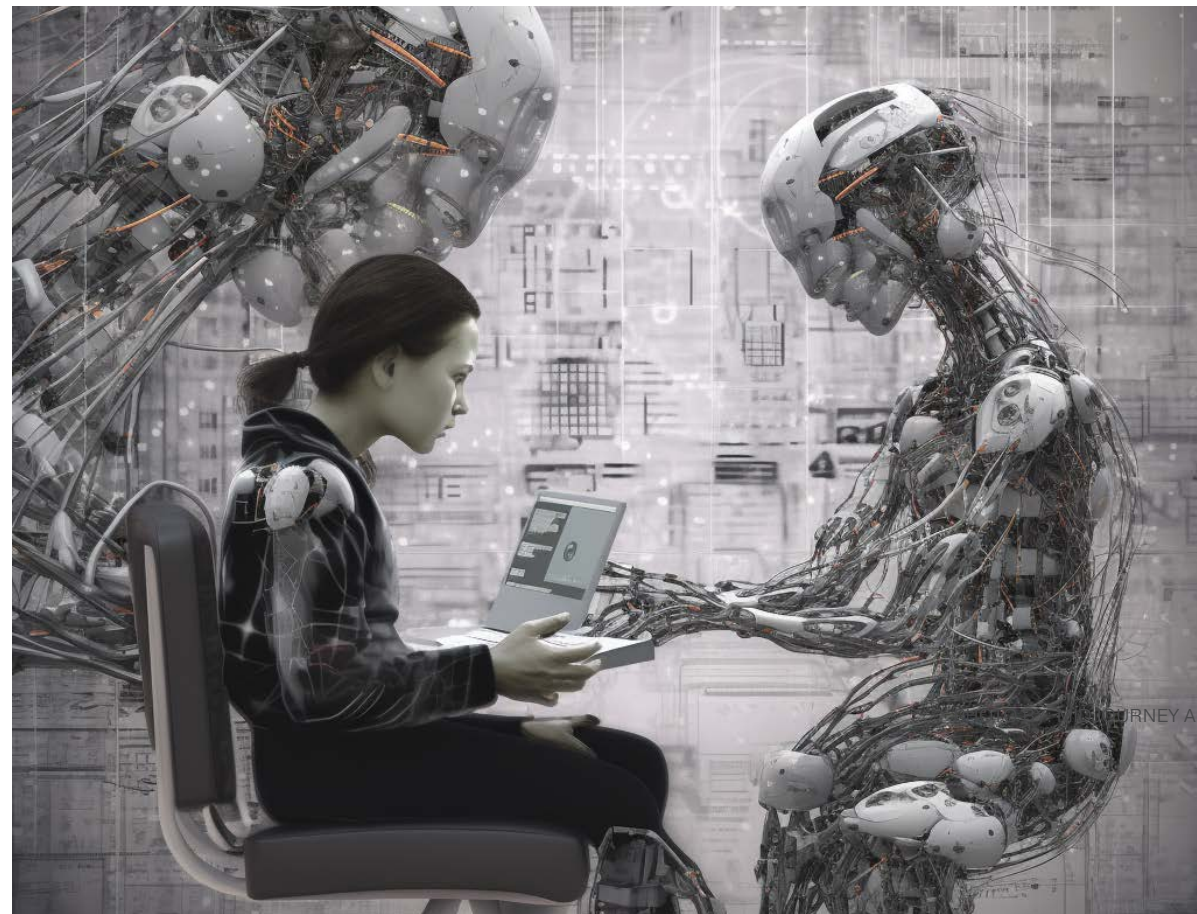
**ARTIFICIAL INTELLIGENCE IN SCIENCES AND ARTS.
CHANCES AND DANGERS**



24TH – 25TH JUNE 2023

V INTERNATIONAL INTERDISCIPLINARY ACADEMIC CONFERENCE

Artificial Intelligence in Sciences and Arts Chances and Danger



Welcome to this unique book of abstracts - an unconventional collection that juxtaposes academic abstracts with their dynamic visualizations, mirroring the confluence of art and science. This is more than a book; it is a testament to the power of interdisciplinary thought and the extraordinary potential of artificial intelligence. As you delve into the content of this monograph, you will journey through a realm where the written word meets visual representation, where traditional abstracts are transformed into an immersive multi-sensory experience. At the heart of this endeavor is an AI-based program called Midjourney, which has breathed visual life into the textual content of our abstracts. Each pages in this monograph presents an abstract and its corresponding visualization. Our intention with this novel approach is to enhance your intellectual journey, enriching the traditional reading experience with a stimulating visual component. The aim is to offer multiple pathways to engage with the research presented, appealing to both the analytical and aesthetic sensibilities of the reader. This innovative combination of text and imagery is a perfect embodiment of the synergy between sciences and arts we wish to encourage. It serves as a tangible example of how artificial intelligence can bridge different realms of knowledge, creating new ways to comprehend and appreciate academic research. As you navigate this collection, let the words provoke thought, and the images ignite imagination. Allow the interplay between the abstracts and their visual representations to enhance your understanding, stimulate intellectual curiosity, and inspire interdisciplinary dialogue. We hope this monograph serves as both an informative guide to the current landscape of artificial intelligence in sciences and arts and a catalyst for further exploration and innovation in this exciting realm. Enjoy this journey through the corridors of intellectual thought and the canvas of AI-enabled artistry.

Elzbieta Perzycka-Borowska, Michał Parchimowicz

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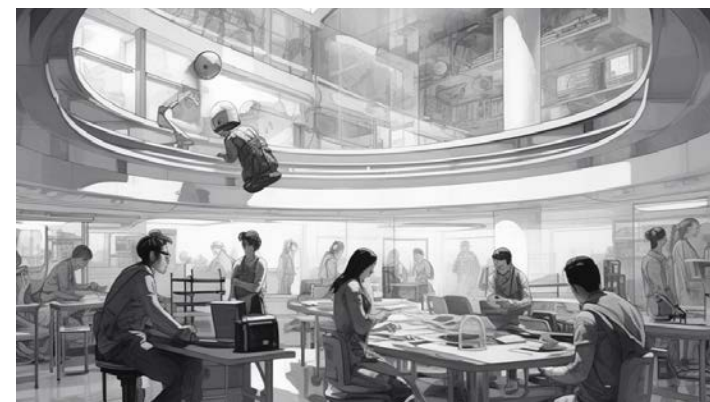
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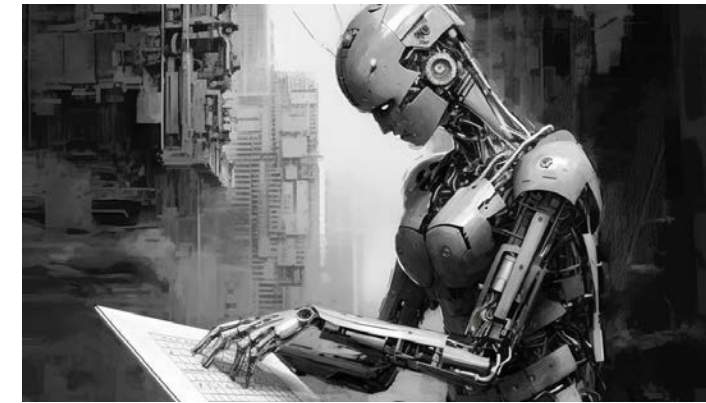
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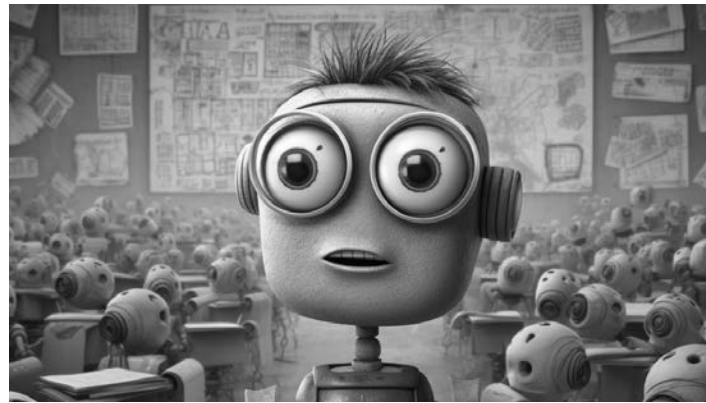


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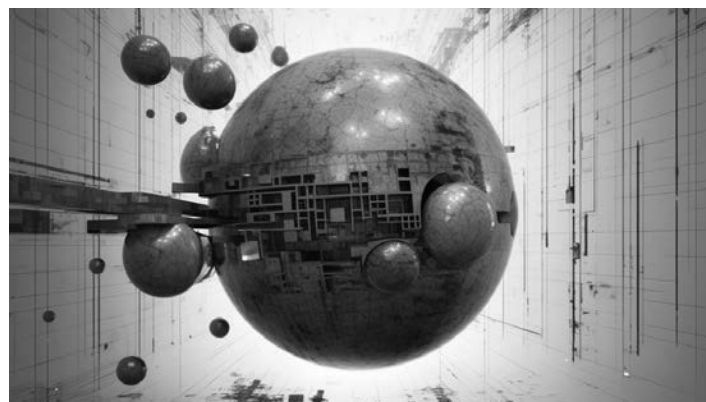
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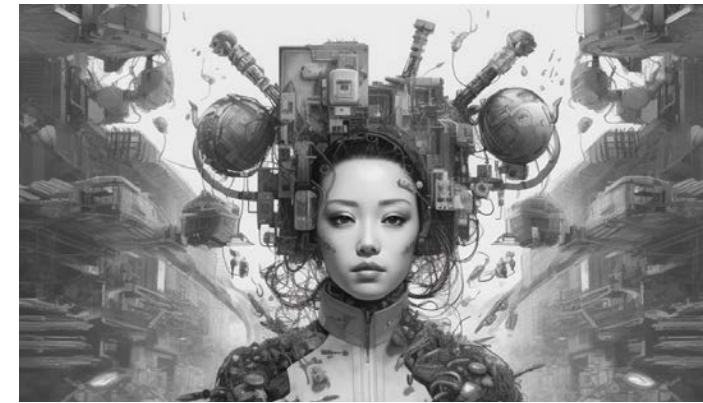
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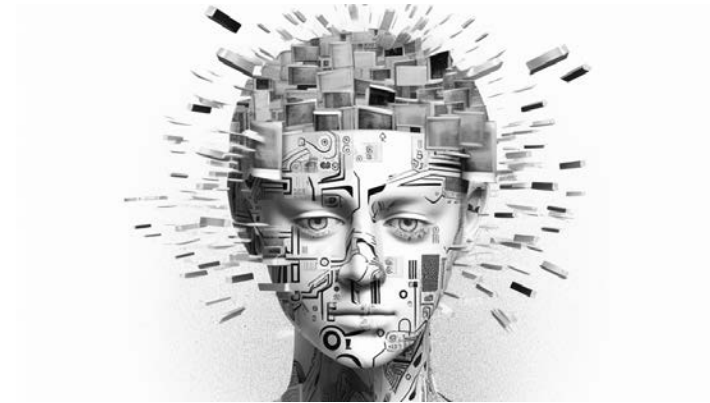


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JACEK JĘDRYCZKOWSKI UNIVERSITY OF ZIELONA GÓRA, POLAND

Jacek Jędrzycki, PhD, works at the Department of Media and Information Technology, Faculty of Social Sciences, University of Zielona Góra. His research investigates communication, the influence and perception of multimedia messages, issues of informatization, applications of information and communication technologies, and models of multimedia distance learning. Jacek has authored three books, one co-authored, and over fifty articles (see: <https://staff.uz.zgora.pl/jjedrycz/publikacje.html>). He has created numerous video courses accessible on his YouTube channel, JJ Kursy (www.youtube.com/c/JJKursy). His contributions extend from written scholarly publications to digital educational content, fostering a comprehensive approach to technology and communication studies.

Contact: j.jedryczkowski@kmti.uz.zgora.pl

Eunika Baron-Polańczyk, professor at the University of Zielona Góra, heads the Department of Media and Information Technology. She's an Editor-in-Chief of "Humanistic Education," a pedagogical journal since 1999. A member of the Polish Pedagogical Society and the Editorial Committee of "Problems of Professional Development Sciences," her interests lie in media pedagogy and ICT applications in education. She coordinates an international project, "ICT in Educational Design," since 2011. An expert and coordinator for the Academy of Programming and Robotics' projects, she's also co-edited "Educational and vocational challenges and dilemmas" since 2014. She's authored several books on ICT and education, including "Multimedia-based instructional materials: Design and application in technology and information-based education," "Cloud or silo? Teachers towards new ICT trends," and "Reasons for using ICT by children and adolescents in their daily practice." Her work primarily focuses on ICT in education, examining its influence on students and teachers.

Email: e.baron@iibnp.uz.zgora.pl

ORCID: <https://orcid.org/0000-0002-8163-5491>



PHOTO BY: MIDJOURNEY AI

Renovation and correction of photographs using AI mechanisms in creative IT classes

Artificial Intelligence (AI), with its growing capabilities, is often perceived as a threat to both education and creativity. The apprehension is that AI, in undertaking tasks involving association of diverse facts and news, might deskill the younger generation, leading to a diminished need for cognitive engagement. Moreover, AI's astounding proficiency in generating graphic images, particularly in the field of art—a realm traditionally exclusive to humans—doesn't engender much optimism. The question of AI supplanting humans in creative and intellectual pursuits is complex. Yet, an innovative approach undertaken by the Department of Media and Information Technology at the University of Zielona Góra is transforming this seeming threat into an opportunity. The department has devised a unique, creative methodology in their IT classes that utilizes AI as a tool rather than a replacement. Students embark on a fascinating journey of discovery and creativity. They unearth old photographs, often black and white, capturing scenes from their hometowns or family life. They then employ AI mechanisms for image correction, sharpening, and coloring these scanned images. The concept extends to modern photography too. Students learn to remove superfluous elements and figures, giving the photos an artistic transformation. Interestingly, rather than inhibiting intellectual activities, these classes inspire curiosity and stimulate students to delve deeper into advanced mechanisms. As a result, they do not only comprehend the functionality of AI but also utilize it to enhance their creativity. This method empowers students and broadens their understanding of the relationship between AI, education, and creativity..



PHOTO BY: MIDJOURNEY AI

ŁUKASZ BIAŁKOWSKI

PEDAGOGICAL UNIVERSITY IN CRACOW POLAND

Concerns about AI in the context of historical narratives about the end of culture and art triggered by the advent of new technologies

Historically, the anxiety surrounding artificial intelligence's emergence is not novel. Over the past century, every few decades saw technological innovations stirring alarm. During the 1950s, the widespread use of radio and television provoked debates concerning their detrimental effects on societal life. Early in the 1980s, Vilém Flusser raised concerns over our growing dependency on image-producing technology that influences our lives, yet we barely comprehend its workings. Andrew Keen, in 2006, penned a critique of Web 2.0, contending it erodes the value of professional work by promoting amateur content. Contrarily, these doomsday forecasts failed to materialize. Art has adeptly harnessed new technologies as creative instruments, rather than falling victim to them. This trend suggests that current anxieties and critical viewpoints addressing the perils of AI within the artistic domain may merely represent ritualized opposition and apprehension towards the unfamiliar. The goal of presentation is to delineate the primary components of such cultural narratives that predict the demise of culture and art or their crisis arising from new media technologies. Within such contexts, it's also essential to highlight narratives expressing worry over AI's development. Finally, it will endeavor to pinpoint the potential of AI for artistic pursuits, debunking the threat narrative with the possibilities of creative evolution. This investigation, while historical, is crucial to understanding our future with AI.



PHOTO BY: MIDJOURNEY AI



PHOTO BY: MIDJOURNEY AI

Łukasz Białkowski is a renowned art critic, independent curator, and university lecturer. His writings have been featured in numerous magazines, exhibition catalogs, and monographic studies. He is the author of influential works such as "Celebration of Lack. Contemporary Art and Games with Visibility", "Insincere Field. Sketches on Art" and "Figures on Poles. Narratives of a Strong and Weak Creative Subject". He received his doctoral degree in 2011 from the Faculty of Philosophy at the Jagiellonian University, for his research on the evolution of the artist's figure in 20th century aesthetics. Białkowski serves as an Associate Professor at the Faculty of Arts at the Pedagogical University of Krakow and also lectures at the Academy of Fine Arts in Krakow. Residing in Krakow, he continues to make significant contributions to the arts and academia.

TECHNOLOGY, ENGLISH CLASS, IMPACT

CHEN CHEN

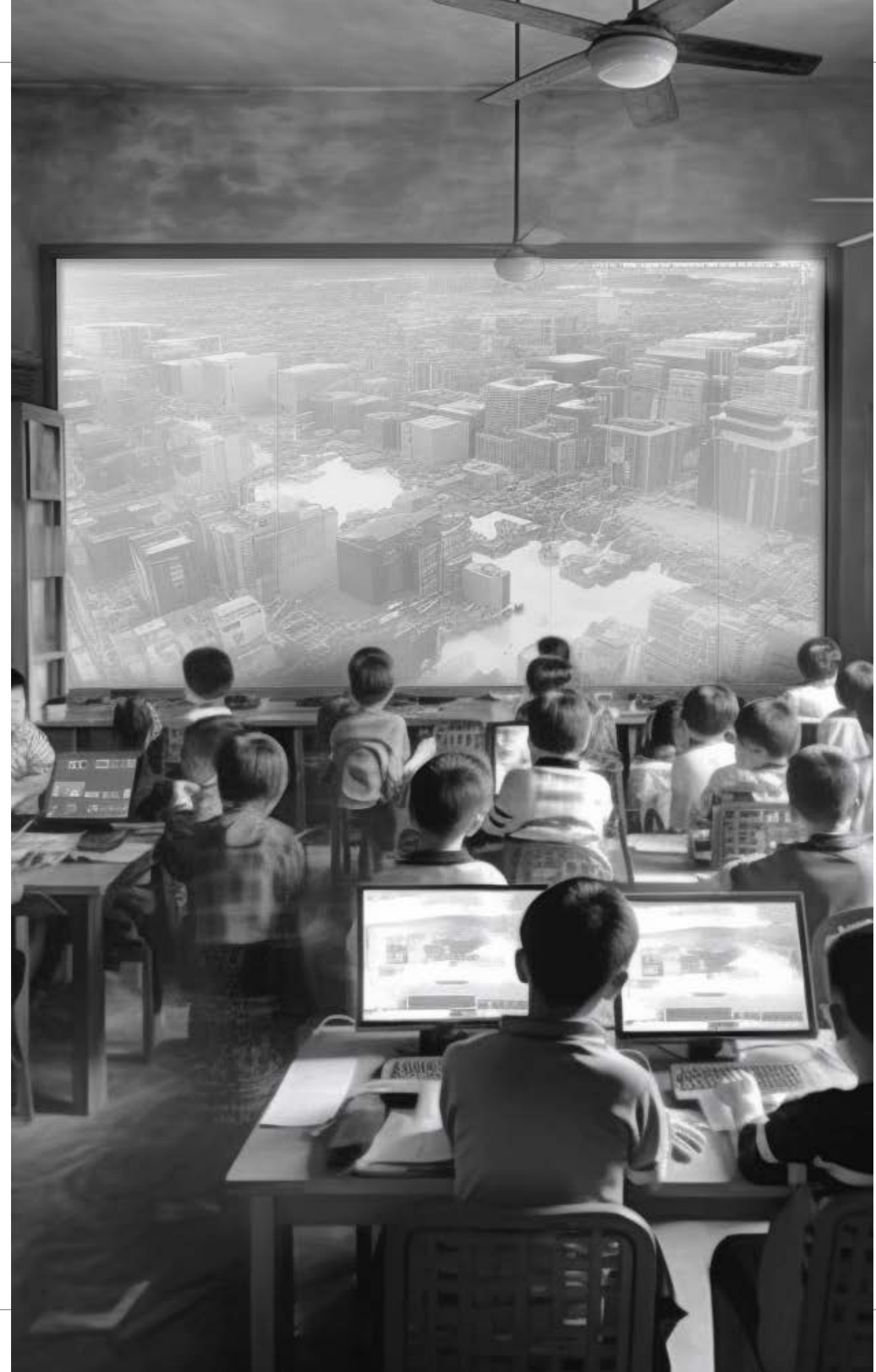
NINGBO UNIVERSITY, CHINA

The impact of emerging technology on education - the observation of primary English class in China

The advent of globalization has significantly impacted the educational sector, necessitating the integration of digital technologies. This shift introduced innovative technology-assisted learning tools, such as mobile devices, smartboards, Massive Open Online Courses (MOOCs), tablets, laptops, and more advanced resources like simulations, dynamic visualizations, and virtual laboratories. These advancements have revolutionized education worldwide. China pioneered this transformation in 1978, leading to a global paradigm shift referred to as the informatization of education. This approach aims to optimize educational processes through Information and Communication Technology (ICT). The impact of this revolution has been immense, fostering global educational reform and development. Digital technologies have induced a complete transformation in the education system, redefining traditional teaching methods and promoting an interactive, engaging learning environment. This evolution continues to influence all educational levels, from primary schools to higher institutions. The presentation aims to elucidate the impact of technology on education, focusing on its role in primary school English classes. It will be a presentation on how digital tools enhance language acquisition, foster interactive learning, and boost student engagement. Additionally, potential challenges and solutions for effective technology integration in classrooms will be addressed. Through this, we aim to foster a comprehensive understanding of digital technologies' role in shaping the future of education.

Chen Chen, received master's degree in Pedagogy, specialization in teaching, from Ningbo University, China, in 2020. She published articles focused on English teaching in China and online education for students during COVID-19 period. She focuses on the qualitative research method and her main research interests include parental involvement in children's learning and media education. This is why she took part in Student Research and Innovation Program to research the development of children autonomy under parental involvement. Additionally, she once organised a volunteer team to teach children in rural areas by herself and participated in innovation and entrepreneurship project for university students aimed at investigating the impact of the reform of College Entrance Examination Policy on English Learning in Chinese High Schools. In June 2020 she delivered a presentation during the TICASS Young Researchers International Online Conference titled "New teaching and learning model under the digital technology – double-edged sword of media education".

Email: 1392358961@qq.com



THEATER, JUSTICE, FUTURE

ALEKSANDER CYWIŃSKI

UNIVERSITY OF SZCZECIN, POLAND POLISH UNIVERSITY ABROAD, UK

Is a fairer theater possible thanks to artificial intelligence?

Aleksander Cywiński works at the University of Szczecin, Faculty of Social Sciences, Institute of Pedagogy, Department of General Pedagogy, Didactics and Cultural Studies. Doctor of Social Sciences in the field of pedagogy. He is also a lawyer, and an educator. In the past, he was a probation officer for adults. He deals with the issues of human rights and family law but also issues related to culture and professional background practical insights into the challenges faced by individuals within the justice system. His research interests are remarkably diverse, encompassing critical areas, embracing the transformative power of education, the law, and a deep appreciation for diverse cultures.

Email: aleksander.cywinski@usz.edu.pl

ORCID: <https://orcid.org/0000-0002-3945-9607>

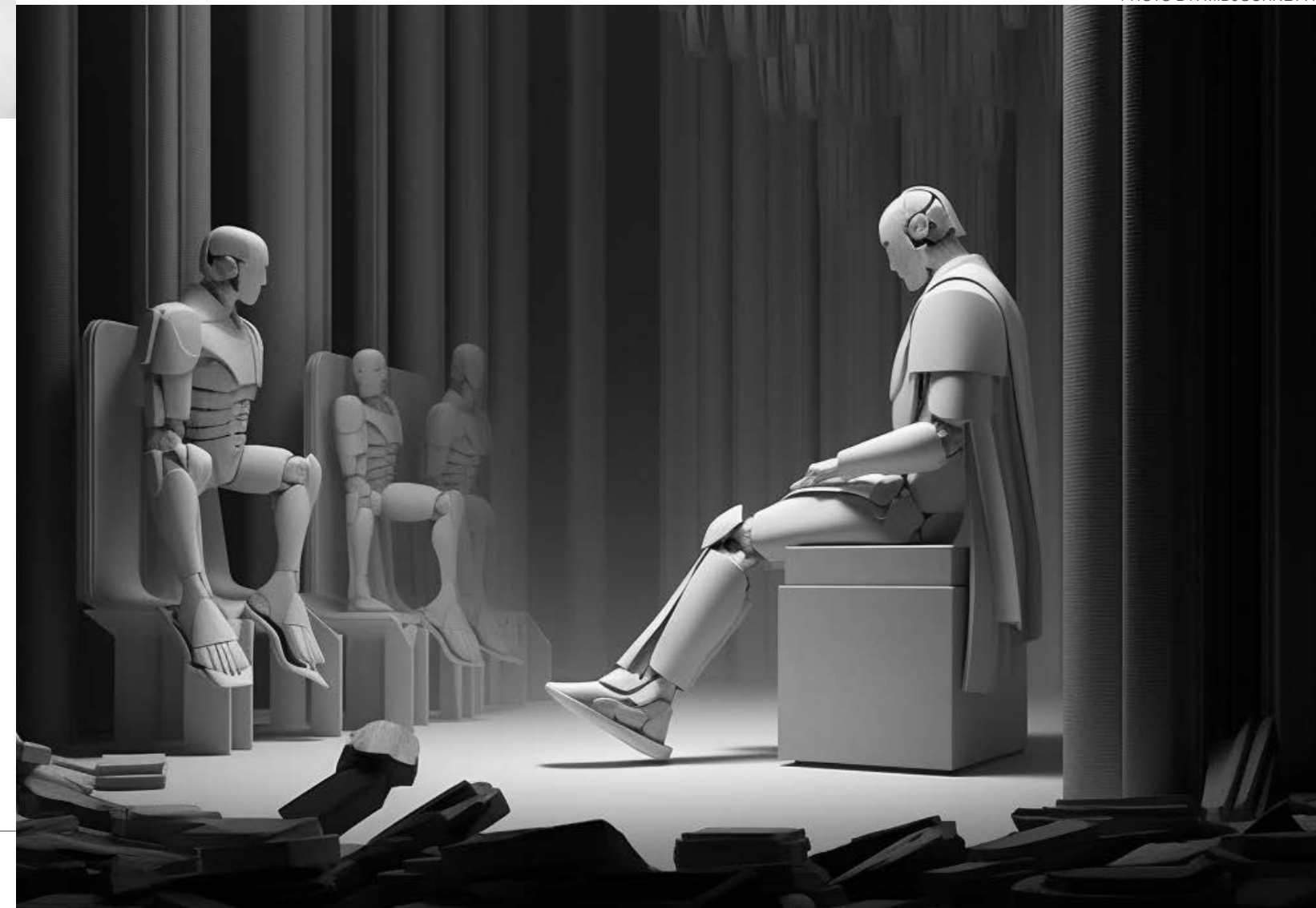
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PHOTO BY: MIDJOURNEY AI

"All the world's a stage, And all the men and women merely players: They have their exits and their entrances, And one man in his time plays many parts"

William Shakespeare, As You Like It - Act 2, scene 7

The subject of consideration is the concept of fair theater. Fair in the issues raised, and in the matter of participation. Currently, we are considering not only problems of social justice but also spatial, environmental, and interspecies justice. If theater is an essential sphere of human life, and we assume that it is, then it can and even should respond to the challenges arising from addressing the issue of justice. In addition, I confront the phenomenon of fair theater with the reality of the technological revolution, which is the spread of artificial intelligence. What changes this fact from the point of view of viewers and creators? What opportunities does it offer? What does it limit? Who should be considered the Creator? Which limitations does artificial intelligence remove, and what problems can it create? Will artificial intelligence make theater more accessible? And more broadly, is it an opportunity for many more people than before to create or witness the creative process? Will it be possible to arouse greater sensitivity to the issue of justice by engaging artificial intelligence in this way? In the words of William Shakespeare, we have arrived at an era where people are not the only actors, and what's more, they may have to fight to maintain this status.



GRAŻYNA CZUBIŃSKA

POLISH UNIVERSITY ABROAD, UK

AI in Mental Health Prevention: Stress Therapy in the Face of Bereavement

Bereavement can lead to severe mental health issues including prolonged grief, depression, and anxiety. Traditional therapeutic approaches, limited by resource constraints and geographical barriers, often struggle to provide adequate support. This paper explores how artificial intelligence (AI) can facilitate accessible and effective stress therapy interventions. The presentation begins by discussing the widespread impact of bereavement-related stress on mental health, emphasizing the need for scalable and personalized interventions. AI technologies such as natural language processing, machine learning, and sentiment analysis are then evaluated as potential tools for creating responsive stress therapy systems. Design considerations for AI-based therapy platforms are detailed next, stressing the importance of empathetic

and emotionally intelligent virtual agents. Ethical concerns relating to privacy, data security, and the potential for exacerbating distress are also considered. Existing studies and prototypes employing AI in stress therapy are then reviewed, discussing the efficacy and user acceptance of these interventions. The potential benefits and challenges of integrating AI into mental health prevention strategies are also highlighted. The presentation concludes by underlining the need for collaboration among mental health professionals, AI experts, and ethical stakeholders to ensure the responsible implementation of AI-driven therapy interventions. Future research directions and the necessity for ongoing evaluation and refinement are also emphasized, highlighting AI's potential role in supporting individuals coping with the loss of a loved one.

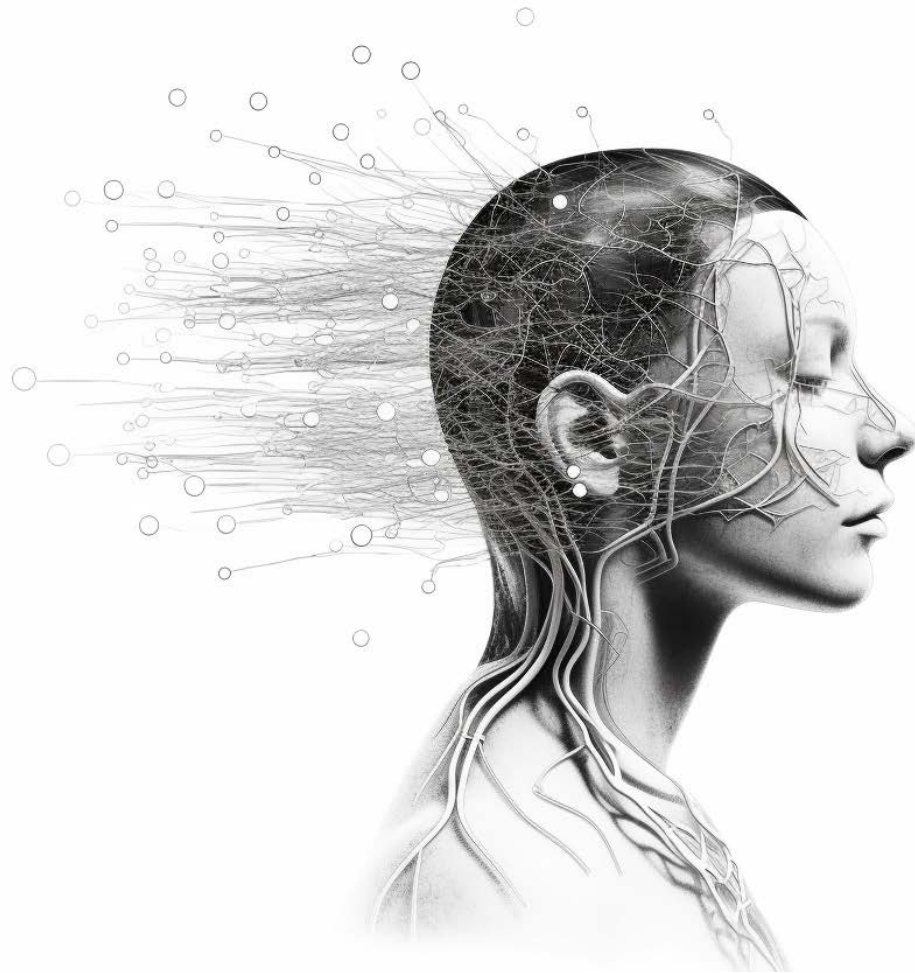


PHOTO BY: MIDJOURNEY AI

Grażyna Czubińska, PhD, is a health sciences authority and a faculty leader at the Polish University Abroad. She holds significant roles as Dean for the Social Sciences Department and prorector. A prolific author and commentator, she focuses on public health matters in Poland and the UK. Her counseling practice addresses individual mental and sexual health challenges, relationship building, and family development. Prof. Czubińska's research explores the factors influencing human behavior during emigration, sexual and reproductive health, gender issues,

and interpersonal crisis prevention. Notably, she has conducted pivotal research on the sexual attitudes and behaviors of Poles in the UK post-2004, and investigated the response of Poles during the Covid-19 pandemic. She also contributed to studies on the impact of Brexit on Polish diaspora and families in the UK. She designs sexual health prevention programs, provides professional training, and contributes to the development of various postgraduate curricula.

Email: grazyna.czubinska@puno.edu.pl
ORCID: <https://orcid.org/0000-0001-5993-536X>



PHOTO BY: MIDJOURNEY AI

MARTA DĄBKOWSKA AND MAGDALENA KIEDOS

UNIVERSITY OF SZCZECIN, POLAND

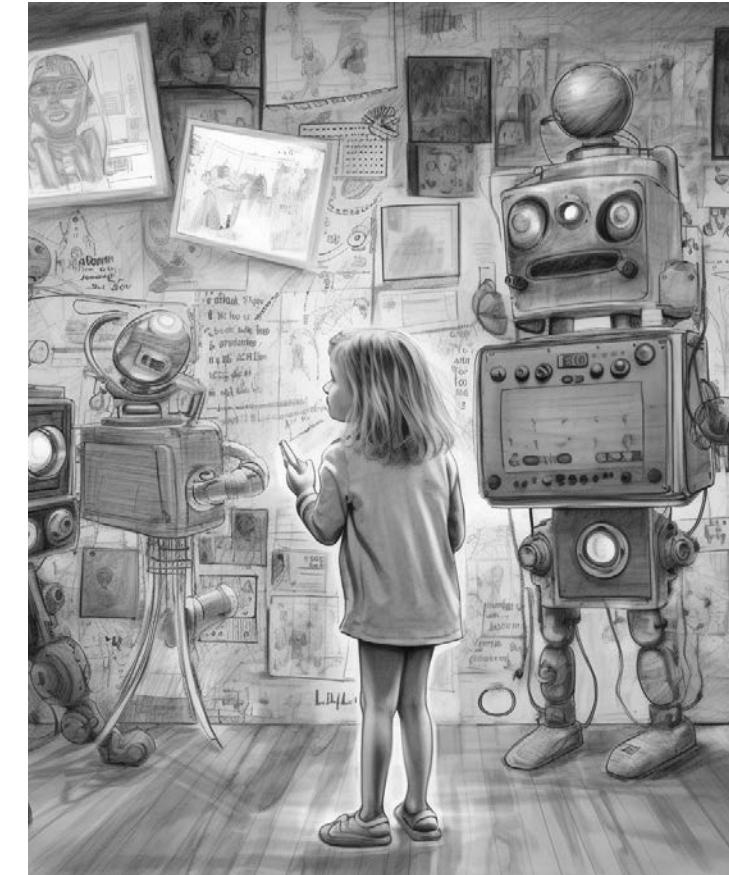
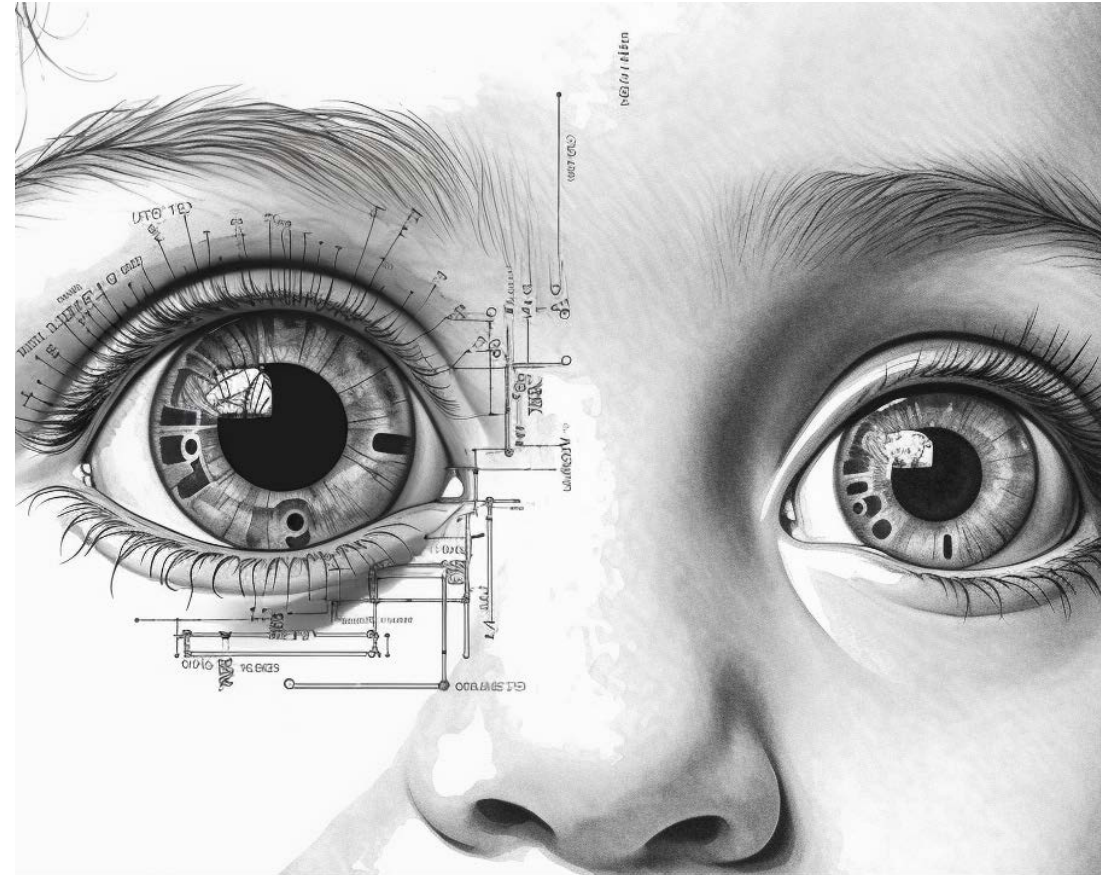
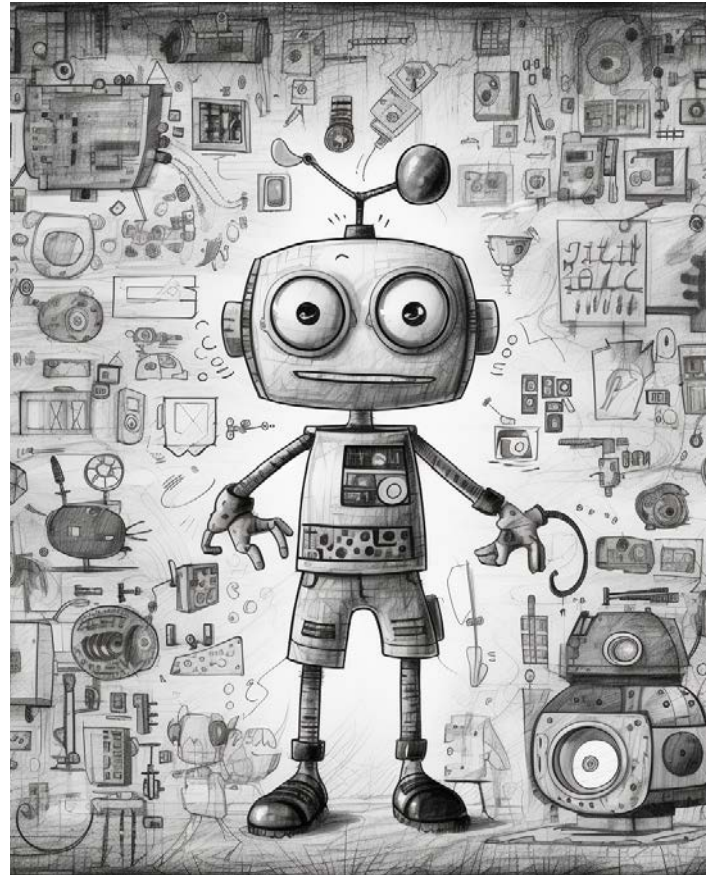


PHOTO BY: MIDJOURNEY AI

Representation of artificial intelligence in the minds of parents and their children

In today's rapidly advancing world, the rapid development of new technologies holds great promise for transforming our lives and the world. However, the emergence of artificial intelligence (AI) has also given rise to concerns regarding security and the evolving role of humans in the future. These concerns have sparked interdisciplinary discussions surrounding the potential threats posed by transhumanism. The purpose of this presentation is to share the findings of our research, which sought to explore how parents and their preschool children perceive artificial intelligence. We aimed to uncover their understanding and conceptualization of AI, including their knowledge, emotions, feelings, and intentions, through a small-scale research study employing diagnostic surveys, content analysis of children's drawings, and interviews with parents and children. Through this research, we aimed to shed light on the cognitive and emotional representations of artificial intelligence in the minds of both parents and preschool children. By utilizing content analysis of children's drawings and engaging in thoughtful interviews, we sought to gain valuable insights into how these individuals perceive and understand AI. Our study aims to contribute to the broader discourse on the societal impact of artificial intelligence, particularly in the context of early childhood development and family dynamics. By exploring the perceptions of parents and their young children, we hope to enhance our understanding of how AI shapes the social fabric and offer insights into potential concerns, hopes, and aspirations associated with this transformative technology.

Marta Dąbkowska, born on May 15, 1994 in Szczecin, second- year student of Preschool and Early School Pedagogy at the University of Szczecin.
Email: d.martadella@gmail.com

Magdalena Kiedos, urodzona 26 września 1982 roku w Gryfinie, Studentka II roku Pedagogiki Przedszkolnej i Wczesnoszkolnej na Uniwersytecie Szczecińskim
Email: magdalena.kiedos9@gmail.com

THE LABORATORY OF THE FUTURE, THE PROGRAM, THE STUDENTS

GRAŻYNA ERENC - GRYGORUK

WEST POMERANIAN BUSINESS SCHOOL ACADEMY OF APPLIED SCIENCES POLAND

Experiences of teachers and students from the implementation of the nationwide “Future Labs” program



PHOTO BY: MIDJOURNEY AI

Future Labs is an innovative educational initiative jointly implemented by the Ministry of Education and Science and the GovTech Center at the Chancellery of the Prime Minister. The core objective of this program is to establish a modern school environment where classes are conducted in an engaging and captivating manner, fostering student participation and facilitating the exploration of their talents and interests. In presentation is a reflective piece from a teacher's perspective on implementing the Future Labs program. The program's primary aim is to cultivate future-ready competencies among students, particularly those pursuing STEAM majors (Science, Technology, Engineering, Arts, and Mathematics). The teacher's reflection delves into the transformative nature of the Future Labs initiative, highlighting the innovative teaching methods employed to enhance student learning experiences. The program integrates scientific and technical knowledge and emphasizes the importance of creativity

and artistic expression. It seeks to empower students with a well-rounded skill set, preparing them for the challenges and opportunities in the evolving digital landscape. Through the implementation of Future Labs, the teacher shares their observations and insights into how the program has positively influenced student engagement, motivation, and their ability to acquire and apply knowledge across multiple disciplines. The article underscores the significance of fostering critical thinking, problem-solving, collaboration, and adaptability, all vital competencies required for success in the future workforce. Overall, the teacher's reflection on the Future Labs program highlights its profound impact on students' educational journeys, equipping them with the necessary skills and competencies to thrive in an increasingly complex and interconnected world. It emphasizes the importance of reimagining traditional educational approaches and embracing innovative initiatives that nurture and empower the next generation of learners.

Grażyna Erenc-Grygoruk, PhD. in humanities in the field of pedagogy (University of Szczecin); lecturer at the West Pomeranian Business School in Szczecin and the Higher School of Humanities at TWP in Szczecin, certified 1st-3rd grade teacher of Primary School No. 10 in Szczecin. Her main interests focus on the issues of a child/student, his/her predispositions, abilities and creating conditions for effective development and education. Author and co-author of books and about one hundred popular science articles, incl. the impact of the media on the cognitive processes of children, learning foreign languages at the pre-school and early school level, child's loneliness at school, preparation of a Polish school for migrant children and others. Since 2005 - a member of the West Pomeranian Regional Association of Teachers Innovators for the Quality of Education in Szczecin "Edukacja Jutra"; and a member of the Polish association "Edukacja Nauka Kultura".

Email: grazyna_erenc@onet.pl



PHOTO BY: MIDJOURNEY AI

CHAT GPT, POLISH, LESSON PLANS, LESSON PLANNING

AGNIESZKA GAPINSKA

POLISH UNIVERSITY ABROAD, UK

Is GPT Chat a good teacher? Selected lesson plans for teaching Polish language

Lesson planning is an integral aspect of the teaching profession, deeply rooted in theory and guided by well-defined teaching objectives, methods, and strategies. Nagajowa (1994) highlights the importance of constructing effective lesson scripts for teaching the Polish language, emphasizing the need to engage students through problem-solving situations that capture their interest. In the introductory phase, she suggests language activities encouraging students to participate in organized communication with practical and relevant exercises. Clear objectives and topics and incorporating communication skills, language exercises, and lesson summaries are crucial elements in effective lesson design. In this presentation, the author aims to analyze a selection of lesson plans created by ChatGPT, an AI language model, to evaluate their methodological accuracy. The focus will be on lesson plans covering various topics within Polish education at the primary and secondary school levels. A comparative analysis will be conducted, comparing the AI-generated plans with exemplary plans crafted by the author during postgraduate studies in "Teaching Polish". The presentation seeks to explore the capabilities and limitations of AI-generated lesson plans, scrutinizing their adherence to established pedagogical principles. By examining the AI-generated plans alongside the author's model plans, insights can be gained into the AI system's ability to structure and deliver meaningful and coherent lessons effectively. Through this analysis, the presentation aims to contribute to the ongoing discourse on the role of AI in education, specifically in lesson planning. It offers an opportunity to reflect on the potential benefits and challenges of integrating AI technologies into pedagogical practices. It provides valuable insights for educators and researchers in teaching Polish and beyond.



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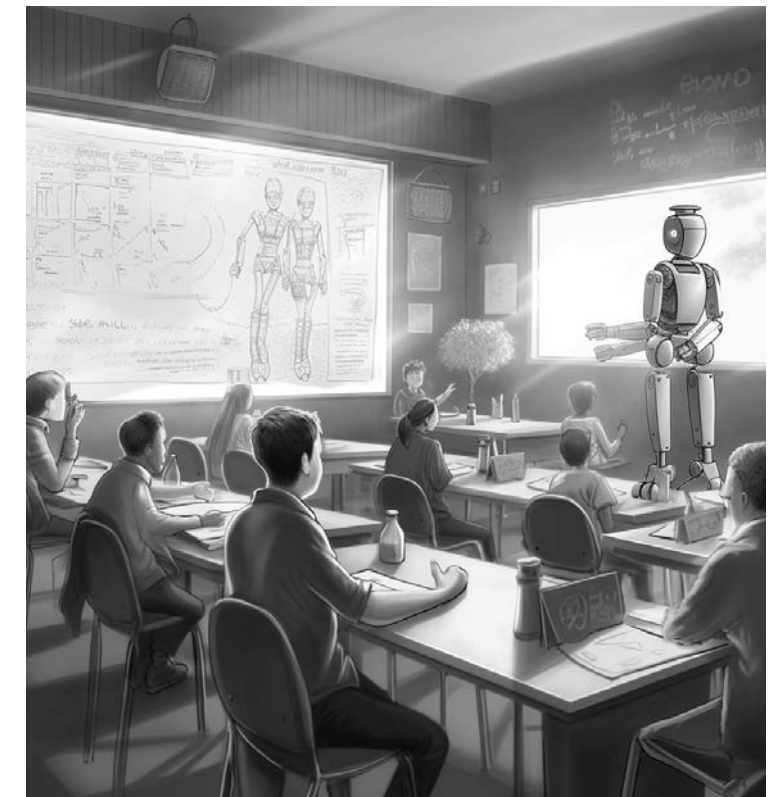


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Agnieszka Gapińska holds an MA of Pedagogy, Master of Bilingualism, PhD candidate, postgraduate student in Polish Language Teaching. She serves as the Head of a junior school in West Sussex, the Deputy Head of a Polish Saturday School in Croydon, and an Assistant in the Pedagogy and Media Culture Unit at PUNO London. With a passion for research, she actively participates in international conferences and has authored scientific works. Her research primarily focuses on the bilingualism of Polish children residing in the UK, exploring language identity, sociolinguistic competence, acculturation, and early years methodology for teaching bilingual children. As a mother of two bilingual children, she brings personal experience to her academic pursuits. Outside of her professional endeavours, Agnieszka enjoys engaging in artistic activities such as theatre, cooking, and watercolour painting. Her multifaceted interests and dedication to understanding and enhancing bilingual education contribute to her well-rounded approach to pedagogy.

Email: agi.gapinska@gmail.com

ORCID: <https://orcid.org/0000-0003-3412-5840>

MARTA GLINIECKA

POMERANIAN UNIVERISTY IN SŁUPSK, POLAND

Artificial intelligence - fascinations and fears of students

A deep exploration into the understanding and perceptions of students towards the ethical implications of Artificial Intelligence (AI) progression forms the core of study. An examination of AI's influence on critical aspects of life - communication, creativity, professional pursuits, and interpersonal relationships - is undertaken. Insights into a spectrum of responses to evolving AI technologies are unveiled, highlighting a range from fascination with potential benefits to concerns surrounding ethical dilemmas. The study integrates philosophical, sociological, and technological perspectives to reflect on how ethical constructs such as transparency, accountability, and privacy shape student views on AI. Furthermore, the implications of AI on creativity and job market dynamics are analyzed, exploring its disruptive potential on traditional professional environments. A look into students' comprehension of these shifts, their strategies for navigating this transition, and their concerns about AI's swift evolution are provided. The aim is to offer a comprehensive understanding of the next generation's views on AI's escalating influence, unearthing potential societal implications. This exploration provides an opportunity to discuss ways to better integrate AI into daily life while addressing prevalent concerns. Engaging in a crucial dialogue on AI's ethical complexities and its role in our shared digital future, the study unravels student attitudes towards AI, contributing to the wider discourse on our collective digital trajectory.

Marta Gliniecka, an academic at the Institute of Pedagogy, University of Pomerania, Słupsk, holds a PhD. in Social Sciences with a focus on Pedagogy. Her primary research interest lies in the intersection of new media and its educational potential, and she investigates the creative expressions of children and youth in diverse forms. Marta Gliniecka actively participates in various research projects and contributes to the academic community through her insightful presentations at conferences and scholarly articles. Her publications, often revolving around her research interests, serve to deepen the understanding of the role new media plays in educational strategies and youth creativity. She has authored a monograph titled "Multimedia Stories in Teenagers' Blogs: From Online Exhibitionism to Self-expression," which delves into the digital culture of the youth. This work examines the ways in which adolescents utilize blogging platforms for self-expression, thus offering valuable insights in the field.

Email: m.gliniecka.ap@gmail.com

ORCID: <https://orcid.org/0000-0002-5620-9757>



PHOTO BY: MIDJOURNEY AI

THEATER, JUSTICE, FUTURE

JUSTYNA GORZKOWICZ

POLISH UNIVERSITY ABROAD, UK

Justyna Gorzkowicz is a cultural anthropologist specialising in literature and art; vice-director of the Institute of European Culture at the Polish University Abroad (PUNO) in London and director of the 3D Blue Point Art Gallery London; member of The British Association for Slavonic and East European Studies (BASEES), International Union of Polish Studies (MSSP) and Memory Studies Association (MSA). Her interdisciplinary research focuses on literary and artistic studies, with reference to geohumanities, philosophy, anthropology and ethnography. She is currently engaged in several interdisciplinary research projects, including: urban studies in the context of geopoetics of a given place; memory in narrative; architectural literary studies, as well as examination of Polish literature (e.g. the heritage of Stanisław Vincenz and Kornel Filipowicz) and the virtual gallery as artistic and educational practice. She has written, inter alia, books *Finding the Antagonist. On Existential Threads in the Literature of Kornel Filipowicz* and *Towards Rediscovery: Lockdowns* – Joanna Ciechanowska; she is also the author of numerous interdisciplinary articles and a participant of international conferences.

Email: justyna.gorzkowicz@puno.edu.pl

ORCID: <https://orcid.org/0000-0003-1139-2137>



PHOTO BY: MIDJOURNEY AI

ChatGPT in literary studies on the example of Stanisław Vincenz's work

In recent years, the advancements in the field of artificial intelligence (AI) and its multi-faceted applications across various disciplines have significantly propelled the rate of progress. Notably, the emergence of tools such as GPT chat has posed a compelling question: can these AI tools potentially transform the study of literature, offering fresh perspectives and leading to a more profound understanding of literary works and their authors? In my forthcoming conference presentation, I will delve into the feasibility of employing GPT chat for the analysis, interpretation, and translation of the works of Stanisław Vincenz, a seminal figure in Polish literature. I aim to illustrate the diverse possibilities and tools that GPT chat presents for literary scholars, encompassing aspects such as author style analysis, theme detection, and mood analysis.

Yet, while acknowledging the potential of such AI tools, I also intend to address the potential pitfalls. These include the risk of distorting results, the possibility of overinterpretation, and the potential for misrepresenting the original text. I strongly believe in stressing the need for exercising due caution and developing interpretive skills when utilizing AI tools in the context of literary studies. I have chosen to focus on the oeuvre of Stanisław Vincenz as it provides an excellent entry point to discuss the opportunities and risks associated with the use of GPT chatbots in Polish literary studies. The exploration of Vincenz's legacy through this technological lens will illuminate both the potential and the challenges of integrating AI tools into the humanities, contributing to the broader discourse on the role of AI in literature.

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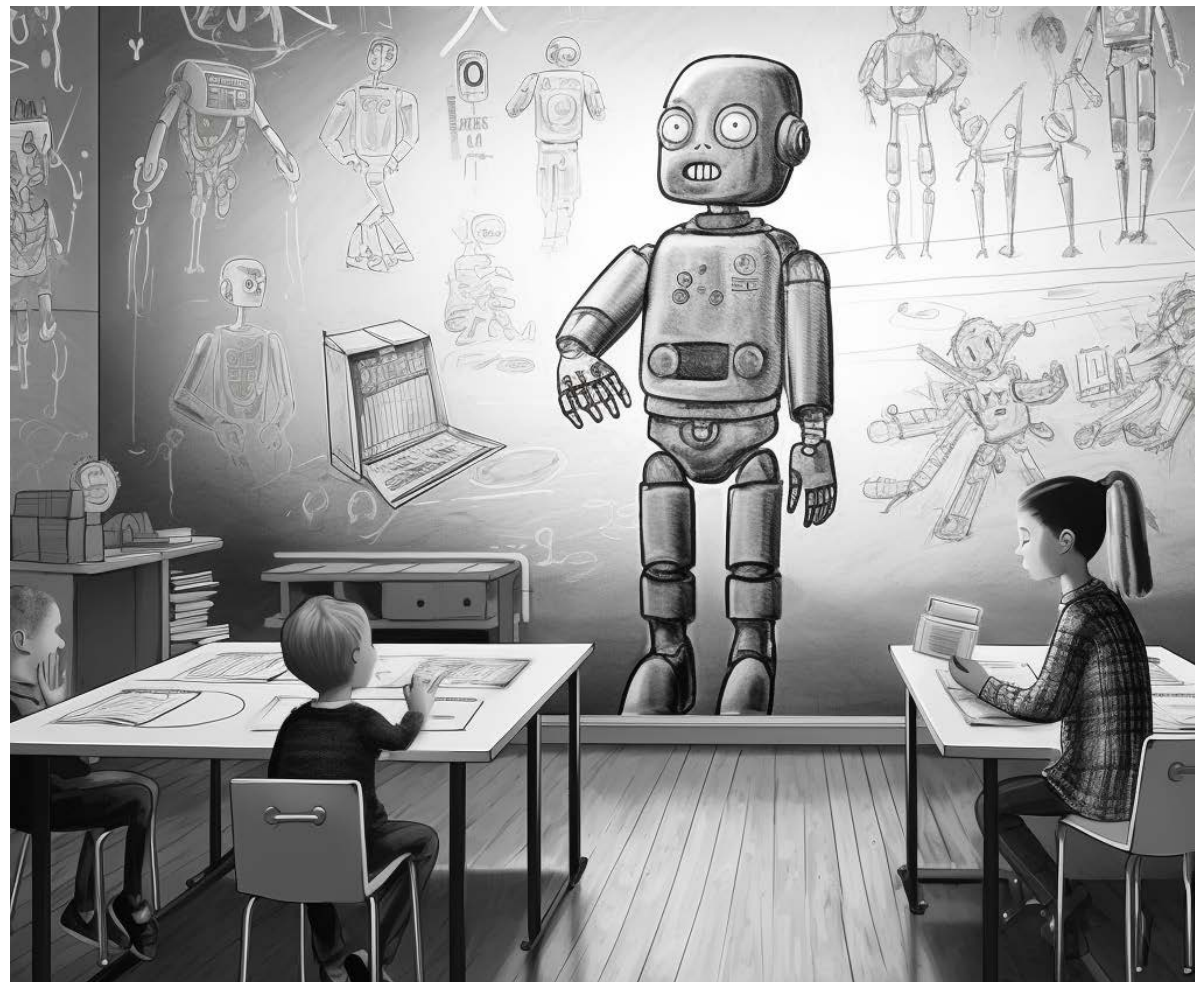


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Since its first release in the public domain on 30 November 2022, ChatGPT has gained more than one million subscribers in a week. The generative AI tool - ChatGPT has surprised the world with its sophisticated ability to perform extremely complex tasks. ChatGPT's surprising abilities in the field of education have provoked mixed reactions among researchers, teachers as this advance in AI seems to revolutionise existing educational practice. This article aims to present some of the potential benefits of ChatGPT in promoting the teaching and learning of Polish as an inherited language. The article also highlights some inherent limitations in ChatGPT, such as the generation

of misinformation. The study offers recommendations on how ChatGPT can be used to support the teaching and learning of Polish as an inherited language. Based on a mixed quasi-experimental approach, the use of ChatGPT in education was found to motivate students to learn the language, which has practical implications. The article suggests that educational organisations need to collaborate and start conversations about how these evolving generative AI tools can be used safely and constructively to improve education and support student learning. They need to provide sufficient support to both students and teachers in the instructional, social and educational dimensions.

DOROTA HRYCAK - KRZYŻANOWSKA

POLISH UNIVERSITY ABROAD, UK

Education in the era of AI. The potential of Chat GPT in teaching Polish as an inherited language

Dorota Hrycak-Krzyzanowska, a PhD student in Glottodidactics at the University of Lodz, serves as the Head of the Department of Polish Language and Culture at PUNO London. With years of experience teaching Polish as an inherited, second, and foreign language in British and Polish institutions, she is also a respected researcher at PUNO and lecturer for the Postgraduate in Glottodidactics course at IBL PAN. Dorota is an accomplished author of numerous scholarly publications on activating teaching methods within hybrid educational spaces. Her professional

expertise spans technology in education, the application of AI in educational contexts, hybrid learning/teaching strategies, language learning methodologies, glottodidactics, and the exploration of multicultural identity. She is active memberships include the BASEES British Association for Slavonic and East European Studies, The Society for Storytelling, and the Bristol Association, where she contributes to ongoing discourses in these fields.

Email: dorota.hrycak@puno.ac.uk

ORCID: <https://orcid.org/0000-0002-2510-8961>



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JAREK JANIO

SANTA ANA COLLEGE, USA

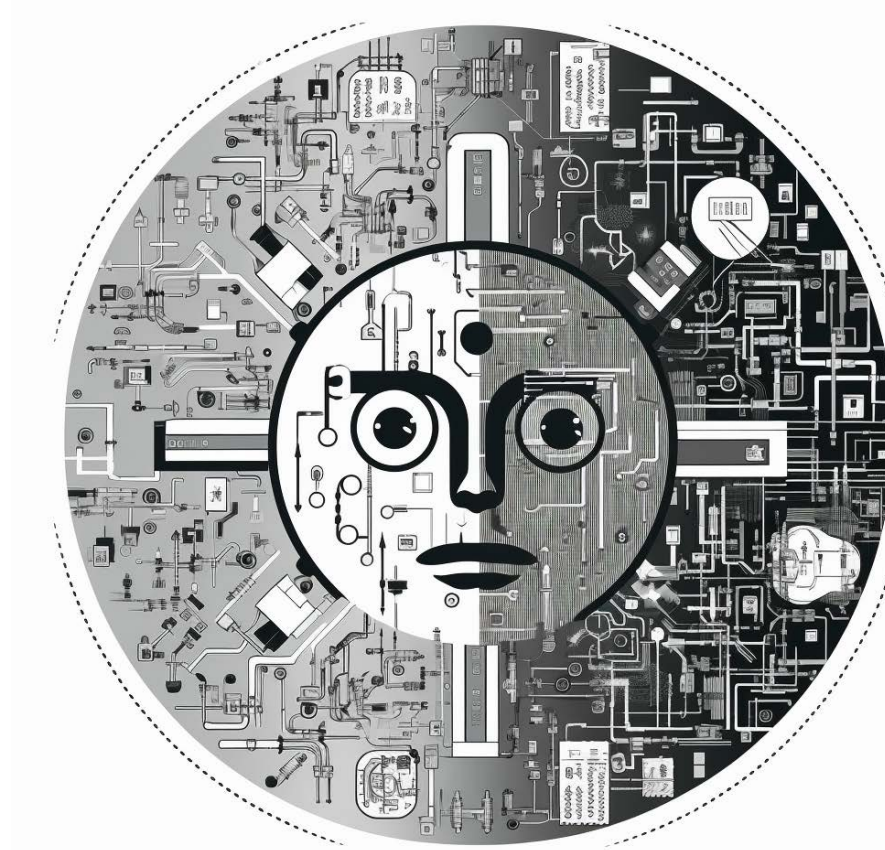


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Discover how artificial intelligence is revolutionizing the dynamics between faculty and students, transforming the way we interact, engage, and collaborate. Explore the various AI-powered tools and platforms that enhance personalized learning experiences, provide timely feedback, and foster meaningful connections in virtual and blended learning environments. Engage in thought-provoking discussions on the potential benefits and challenges of AI integration in faculty-student interactions, including issues of privacy, data security, and maintaining human connection

AI and Faculty - Student Interactions

Jarek Janio, Ph.D. has been working in higher education for over twenty years having served as lecturer of graduate courses for teachers in the areas of bilingual education, instructional technology, disability studies and instructional design. His research interests revolve around Delphi method, technology in education and assessment of student learning. Dr. Janio currently works as professor of ESL and a faculty coordinator at Santa Ana College in Southern California.

Email: jjanio@gmail.com

ORCID: <https://orcid.org/0000-0002-8672-5621>

KATARZYNA KARITA

POLISH UNIVERSITY ABROAD, UK

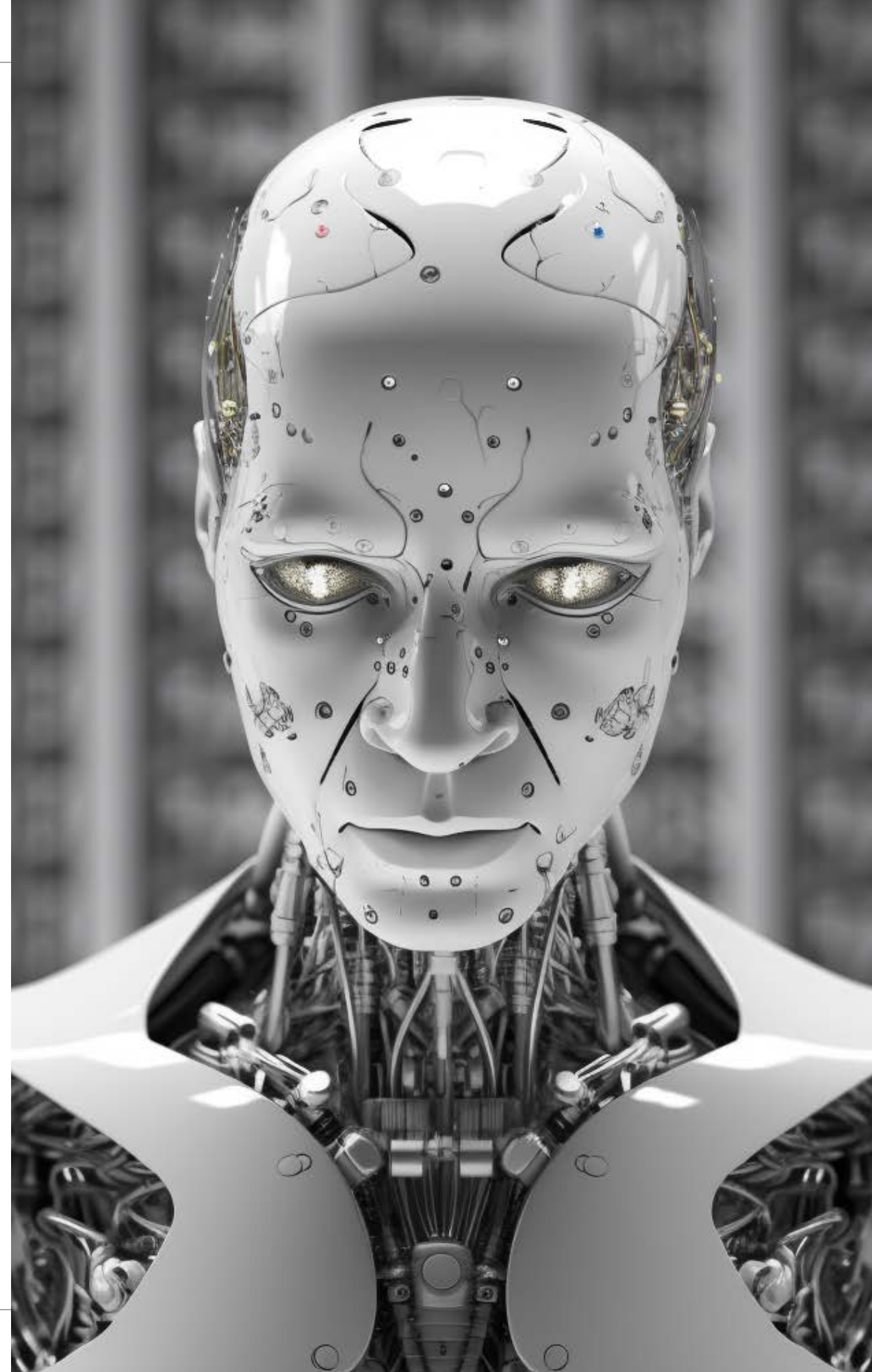
Leveraging the Potential of AI-Powered Chatbots for Personalised and Complementary Social Work education

In an era marked by technological progress and digital ubiquity, the potential of artificial intelligence (AI) to revolutionize sectors is undeniable. This presentation aims to explore one such promising area: the use of AI-powered chatbots as tools to enhance and complement social work education. As advances in AI continue to reshape many areas of human endeavor, social work education, too, can benefit from these developments. Despite the importance of human interaction and empathy in social work, AI, specifically chatbots, can offer valuable support. These AI-driven tools can facilitate knowledge dissemination, provide interactive learning experiences, and support the development of critical skills in social work, thus creating a more engaging and personalized learning environment. In the presentation will dissect the theoretical and practical aspects of integrating AI-powered chatbots into social work education. Firstly, we will explore the overarching concept of AI and chatbots, their capabilities, and recent advancements. Then, we will delve into specific use cases where chatbots can play a complementary role, such as facilitating simulation-based learning, offering tailored educational content, providing instant feedback, and creating safe spaces for practicing communication skills. The presentation will offer of the potential and practicality of AI-powered chatbots in social work education. Through this exploration, we aim to uncover the ways in which these tools can enrich the learning experience, while respecting the ethical boundaries and humanistic values at the heart of social work.

Katarzyna Karita, BA in Social Work (hons) at the University of Gdansk and MPA at London Metropolitan University. Current MA student in Applied Social Work at University of Bedfordshire and PhD candidate. Katarzyna's research interests in the field of social education focus on the subject-place relationship, social work, immigration and emigration and social problems of Poles living in Great Britain. Katarzyna is employed as a social worker by the Local Authority and a deputy head of the Applied Psychology Unit at the Polish University Abroad. Former director of Polish Centre Milton Keynes C.I.C and Polish Saturday School "Akademia Młodego Polaka", project manager of a number of community orientated events, including Polish Heritage Day and the Great Orchestra of Christmas Charity.

Email: katarzyna.karita@puno.edu.pl

ORCID: <https://orcid.org/0000-0001-8859-6512>



AI ETHICS, CRITICAL REVIEW, ETHICS4CHALLENGES, EDUCATION

KONSTANTINOS KONSTANTIS MANOLIS SIMOS ARISTOTLE TYMPAS

NATIONAL AND KAPODISTRIAN UNIVERSITY
OF ATHENS GREECE

AI ethics education

*A critical review of recent and
emerging experiences*

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Artificial intelligence (AI) is presented as a solution to almost every problem, from environmental degradation to pandemics. In response, AI ethics is being discussed as a priority in education. Undergraduate and graduate programs, as well as courses relevant to AI ethics, are being introduced worldwide. Institutes and centers are being established, where researchers from diverse backgrounds specialize in AI ethics. Interdisciplinary professional societies, associations, and groups have emerged to study AI ethics from various perspectives, paralleling the rise of dedicated journals and conferences focused on AI ethics. Our presentation aims to provide a comprehensive overview and critical analysis of these developments, with a particular focus on their relevance to AI ethics education. We will pay special attention to university associations such as ESST and CIVIS, which are directly or indirectly linked to the EU project 'ETHICS4CHALLENGES: Innovative Ethics Education for Major Technological and Scientific Challenges'. The ETHICS4CHALLENGES project embodies the concept of integrating innovative ethics education to tackle significant technological and scientific dilemmas. Through our exploration, we seek to illuminate the evolving landscape of AI ethics education and its significance in our rapidly advancing digital world. By mapping the growth and impact of AI ethics initiatives, we aim to provide insights into the future of ethical AI development and education.



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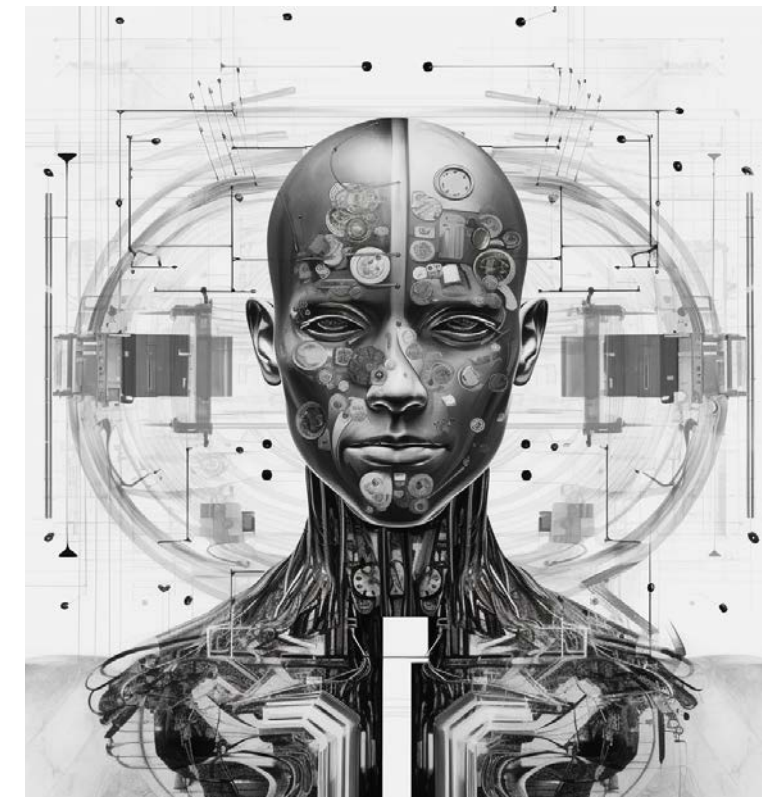


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Konstantinos Konstantis is the doctoral candidate who has been enrolled at the Department of History and Philosophy of Science (HPS), School of Science, National and Kapodistrian University of Athens since July 2020. The doctoral thesis title is "Contextualizing the Emergence of Engineering Ethics." The research is supervised by a three-member committee consisting of Professor Aristotle Tympas, Vice-Chair of the Department and Director of the STS Graduate Program, specializing in the History of Technology; Professor Stelios Virvidakis, an expert in Moral Philosophy; and Professor Georgios Gotsis, specializing in Business Ethics. From October 2020 to July 2021, the candidate participated in the Interdepartmental Program of Graduate Studies in 'Science, Technology, Society - Science and Technology Studies at NKUA. An Integrated Master's degree in Electrical and Computer Engineering (MEng ECE) was obtained from the National Technical University of Athens, completed between February 2014 and November 2019. The master's thesis, supervised by Professor Maria Rentetzi, focused on the social aspects of nuclear energy in Greece. Konstantinos Konstantis also gained experience as a Visiting Scholar at the Department of Engineering, Design, & Society at the Colorado School of Mines from September 2022 to November 2022. 97.pdf
Email: menisorfeas@gmail.com

Manolis Simos, Post-doctoral Researcher, Department of History and Philosophy of Science, National and Kapodistrian University of Athens
Aristotle Tympas, Professor, Department of History and Philosophy of Science, National and Kapodistrian University of Athens

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ŻANETA KUBIC

JAGIELLONIAN UNIVERISTY, POLAND

Guilty Pleasure: AI as a Partner in Scientific Work

Żaneta Kubic, PhD in Humanities. The administrator of the collection management system at Jagiellonian University. Coordinator of research projects. Podcaster. Poet.
Email: zaneta.kubic@uj.edu.pl

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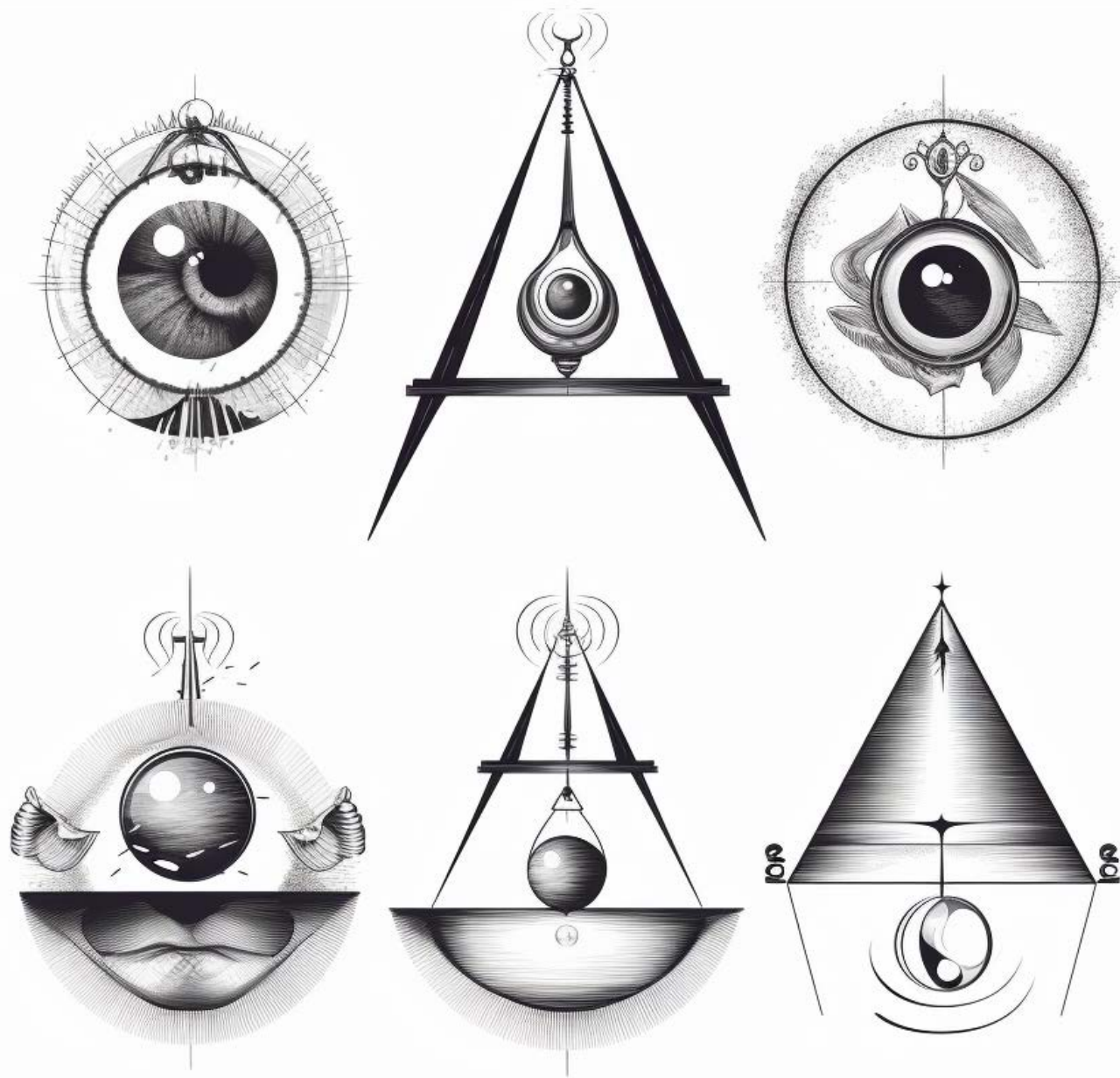


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In the early years of Wikipedia's existence, scientists proclaimed, "We all feel ashamed, we all use it." This quote resonates beyond Wikipedia and finds relevance in the integration of artificial intelligence (AI) as a partner in everyday scientific work. In this presentation, we embark on a scientific experiment prepared in partnership with ChatGPT, an AI language model, to explore the opportunities and ethical considerations of AI in simple research activities, such as preparing presentations and scientific papers. Within the limited timeframe of this 15-minute session, we will focus on key aspects of AI's role as a powerful collaborator, specifically in enhancing human intelligence and expediting scientific discoveries. Through real-life examples and case studies, we will showcase how AI has proven to be a valuable tool in the everyday routines of researchers, aiding in tasks such as information gathering, content generation, and data analysis. Additionally, we will address the ethical implications associated with

AI adoption in these research activities. We will discuss the importance of transparency, privacy, and bias mitigation in utilizing AI as a partner in scientific work. By highlighting these ethical considerations, we aim to promote responsible implementation and foster discussions on the appropriate integration of AI in everyday research practices. During the presentation, we will navigate the chances and challenges that arise when researchers embrace AI as a collaborative tool. Through our scientific experiment with ChatGPT, we strive to inspire meaningful dialogue and collaboration, fostering a deeper understanding of how AI can empower researchers in their day-to-day scientific endeavors while ensuring ethical and responsible utilization. Please note that this presentation represents a scientific experiment conducted in partnership with ChatGPT, an AI language model. The insights and perspectives shared are a product of our collaboration, and we aim to contribute to the ongoing exploration of AI's role as a valuable partner in scientific work.





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Our speech aims to reflect on the possibilities offered by Artificial Intelligence (AI) in the clothing design field and to present proposals for its creative use. Appropriately configured algorithms make it possible to search an extensive historical database in search of significant inspirations for contemporary designs and allow them to be adapted to the individual character of the person who is to wear a given outfit or to each environmental context of its use. For this reason, thinking about the creative possibilities that arise when a human cooperates with AI, we plan to conduct a research test and create models of clothing (for men and women) together with AI. The costumes we want to create will combine the features of costumes worn in Greece in the times of Homer (8th century BC), Dante (14th century), and Bob Dylan (20th –21st century) and will be adapted to the needs of the performers of

the hybrid musical performance Homer, Dante & Bob Dylan, which will be realized in September 2023 on the island of Naxos in Greece by Opera Network and Conservatorio Puccini as part of the CAPHE project. We will present a project implementation plan based on compilations of archival engravings, drawings, and photographs of specific models of clothes from each of the three eras made by AI in the form of women's and men's clothes and a three-dimensional modeling program. The research questions we pose concern the specificity of design work, in which some stages are performed by algorithms and some by people, so that the subject of the project work may be considered not so much a human or an algorithm but a cognitive assemblage (using Katherine Hayles term), comprising for human and nonhuman.

KALINA KUKIEŁKO
UNIVERSITY OF SZCZECIN, POLAND

ALEKSANDRA ŁUKASZEWICZ
ACADEMY OF ARTS, POLAND

Perfect Dress.

Textile Storytelling Through the Centuries.

Weaving a New Subject of Creation

Kalina Kukiętko, sociologist, cultural studies scholar, doctor of humanities. She has been analyzing Rita Leistner's art projects for over seven years. Enthusiast and promoter of Marshall McLuhan's media theory. Academically and privately, actively engaged in a socially responsible fashion. Interested in storytelling, especially textile storytelling and the communicative function of clothing. Coach and tutor. Involved socially and voluntarily.

Email: kalina.kukielko@usz.edu.pl

ORCID: <https://orcid.org/0000-0002-4256-8871>

Aleksandra Lukaszewicz, PhD in Philosophy; habilitation in Humanities. Specialist in philosophical aesthetics and theory of culture and art, considering posthumanist and transhumanist approach, especially in the relation to art and personhood issues, that is in aesthetic and ethical reflection in social perspective. Chairman of the Polish Society for Aesthetics. The recipient of various prizes and grants; these include a scholarship from the Kościuszko Foundation. Coordinator on behalf of the Polish Society for Aesthetics – the partner in the research consortium – in the research project CAPHE (Poland).

Email: aleksandra.alcaraz@gmail.com

ORCID: <https://orcid.org/0000-0001-6961-9037>



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WALDEMAR LIB

UNIVERSITY OF RZESZÓW, POLAND

From Chatterbot to ChatGPT

An Opportunity or Threat to Education



PHOTO BY: MIDJOURNEY AI

The first chatterbot, i.e., a programme pretending to be human, which came into use, has been the ELIZA programme created in 1966 to imitate a psychoanalyst. Over the next few years, several versions and types of this type of software were created. There have also been various attempts at their applications, from entertainment software, to various types of virtual assistants and counsellors, and educational applications as virtual teachers. Although this type of software works quite well as a virtual client advisor, it has not found wider use in education. Today, new AI-based solutions are emerging that pose new challenges but also opportunities in education. Although chatbots have not threatened educational integrity, the case for ChatGPT is not as straightforward. It raises questions about the integrity of creators, teachers, and students, a challenge that must be met by present and future schools at every level from primary through secondary schools to academics and students, and research studies. This talk addresses the development of AI and the opportunities and risks associated with its use in education.

Waldemar Lib, PhD, assistant professor at the Pedagogy Institute of the University of Rzeszów, Poland, works at Department of Teacher Education. The main subject of research interests focus on theoretical and methodological perspectives on education, theoretical and methodological basis of developing and applying modern (multimedia and traditional) methodological studies in education, research on technical and IT vocabulary of general education schools.

Email: libw@univ.rzeszow.pl

ORCID: <https://orcid.org/0000-0002-4559-9198>

KRZYSZTOF ŁUSZCZEK

UNIVERSITY OF SZCZECIN, POLAND

Artificial intelligence Heading towards unstable systems

The development of artificial intelligence is now becoming not only a technological challenge, but also a social one. The technological race between the United States has led us to stand on the eve of a revolution that will have a significant impact on the world order in the coming decades. Unlike previous revolutions in the field of technology (e.g. the invention of the steam engine or electricity), it will happen in much less time than a generation. On the horizon, we can already see the spaces that the wave of artificial intelligence will hit first and lead to their disruption. These are primarily the global equilibrium system, socio-economic state systems and interpersonal communication. Whether this will be a temporary situation or whether we must expect a long-term crisis, we don't yet know. However, this may cause concern, hence the increasing need for research in the humanities and social sciences on the potential impact of the development of artificial intelligence.

Krzysztof Łuszczek, PhD, assistant professor at the Pedagogy Institute of the University of Szczecin, works at Media Pedagogy and Culture of Education Research Group. Member of the Polish Society for Media Education. Coordinator of an international seminar Media Education and Arts. His research focuses on media pedagogy and media theory. Research concerns in particular the impact of new technologies on the lives of children and adolescents and their use in the teaching-learning process. Author of monographs, including: *Modern television – close encounters with mass culture* (Tychy 2004), *Social control over children and youth in the electronic media environment* (Szczecin 2013), *Freedom and control in the second wave Internet* (Tychy 2015).

Email: krzysztof.luszczek@usz.edu.pl

ORCID: <https://orcid.org/0000-0003-1862-5028>



EDUCATION, ARTIFICIAL INTELLIGENCE, MATHEMATICS

AGNIESZKA MARCYNIUK

BYDGOSZCZ UNIVERSITY OF TECHNOLOGY POLAND

Artificial intelligence and mathematics teaching

50

There are threats and fears of teachers observed in recent years at school. They are related to the use of artificial intelligence by students, however, attention should be paid to the positive applications of AI in education. Artificial intelligence is an additional interactive tool that can be used by the teacher. This allows for effective management of the teacher's working time. It is possible to track students' progress in the demanding subject of mathematics in the long term. AI can become a teacher's assistant, which will save time and support young people in an appropriate way. However, it is worth remembering that artificial intelligence will not replace a human teacher due to the inability to build important student-teacher relations. Teachers' concerns about the use of artificial intelligence in a imitative approach to tasks assigned to students are unfortunately also justified. A "golden mean" should be found for artificial intelligence to be a tool supporting teachers and students, and not to provide ready-made solutions that do not affect the development of key mathematical skills in young people. As a mathematics teacher, I would like to present the risks of using this tool, as well as indicate the possibilities of how artificial intelligence can support the work of teachers and students in a positive aspect. Specific mathematical tasks commissioned to artificial intelligence and analysis performed by an active subject teacher will be presented.

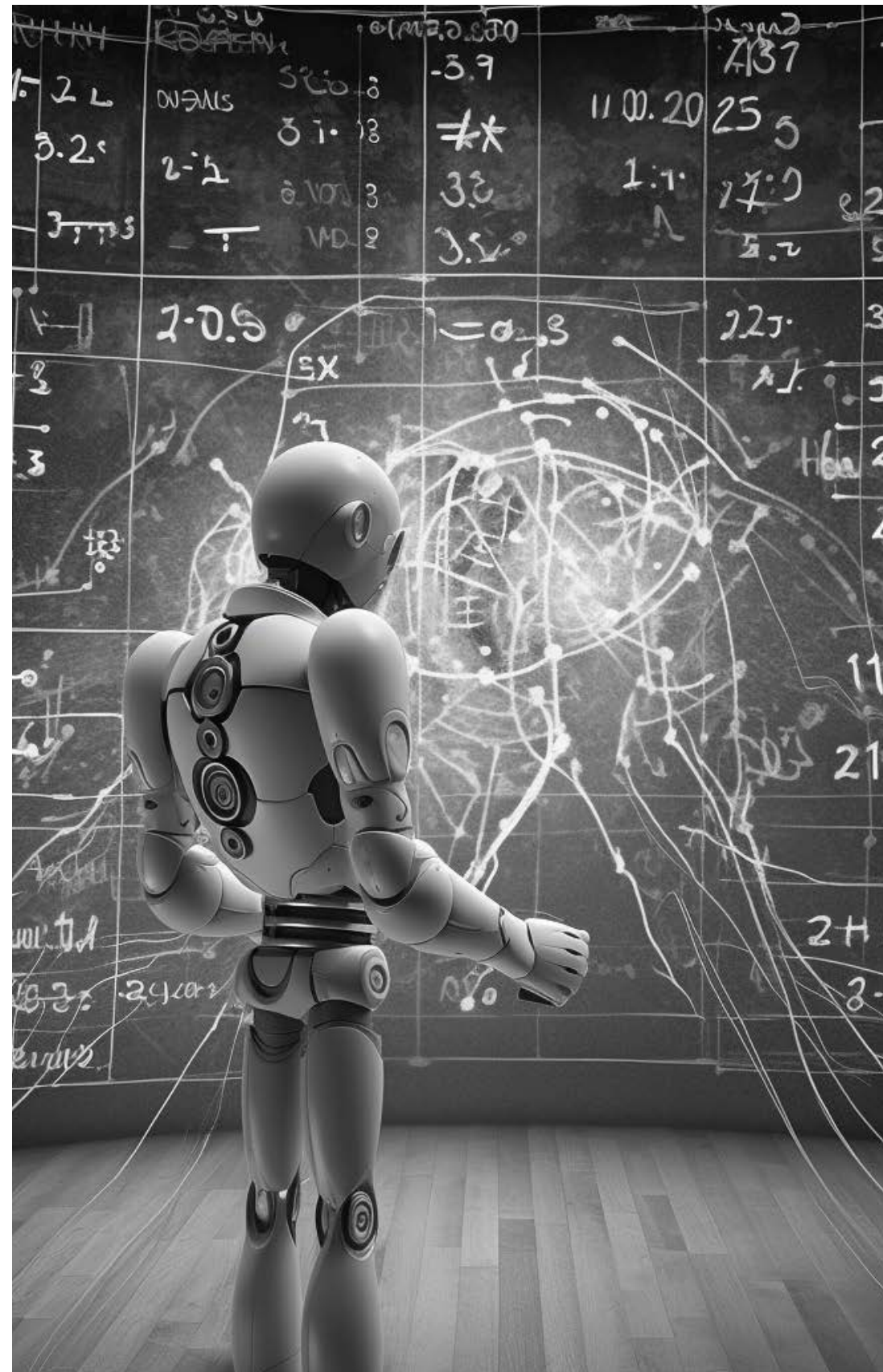


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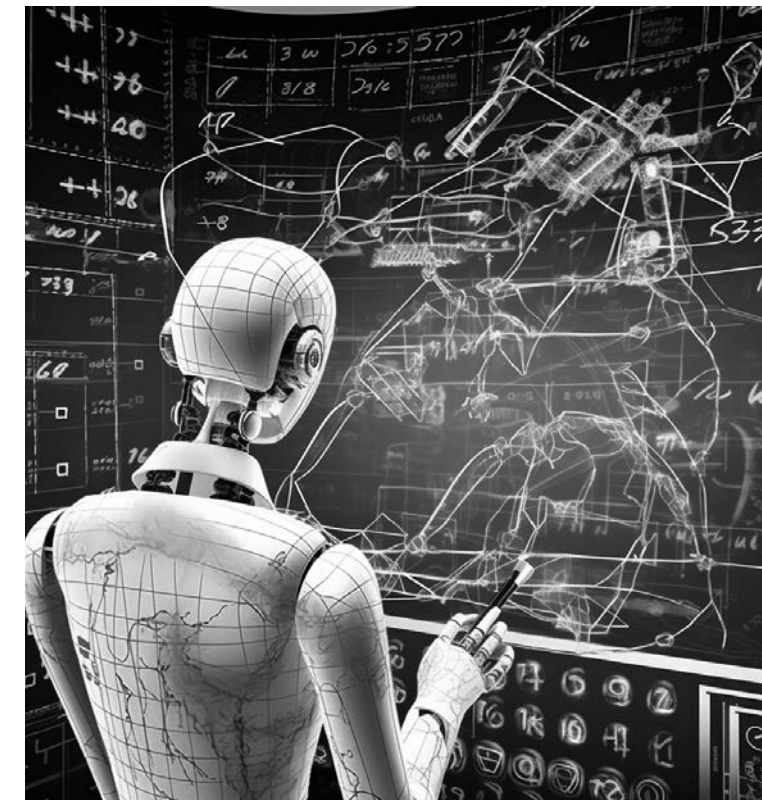


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Agnieszka Marcyniuk was born in Pułtusk. She graduated studies in the field of biotechnology at the Agricultural Technical Academy in Bydgoszcz in 2005. (currently - Jan and Jędrzej Śniadecki University of Technology in Bydgoszcz.). Since 2008, an active teacher of: mathematics, chemistry, physics and biology, having the necessary qualifications to teach the above-mentioned subjects obtained during postgraduate studies. In 2016-2020, she participated in doctoral studies at the Institute of Psychology of the Polish Academy of Sciences, obtaining the required credits. Currently, she is working on her doctorate "Workaholism and commitment in the teaching profession" under the supervision of a professor at the University of Szczecin (Elżbieta Perzycka-Borowska, PhD). Interests relate to the teaching profession and the issues of modern education. A certified teacher for several years associated with Bolesław Prus IV Secondary School in Szczecin and the Heroes of Monte Casino IX Secondary School with Bilingual Departments in Szczecin. Own publications: 1) Social consequences of parents' workaholism, in: *Pedagogy and social prevention*, ed. M Jędrzejko, A. Szwedzik, Oficyna Wydawnicza ASPRA, Warsaw 2018. 2) Mathematics in several ways, in: *Refleksje* 3/2018, Zachodniopomorski Dwumiesięcznik Oświatowy. Email: peszkaagnieszka@interia.eu

XAI, TRANSPARENCY, EXPLAINABILITY

ORFEAS MENIS MASTROMICHALAKIS MANOLIS SIMOS ARISTOTLE TYMPAS

NATIONAL TECHNICAL UNIVERSITY OF ATHENS, GREECE

Explainability and Transparency of Artificial Intelligence Systems: An STS Approach



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As artificial intelligence (AI) systems are increasingly integrated into various aspects of society, their explainability and transparency have become a significant concern. The increasingly opaque and complex structure of AI models raises questions about their accountability and trustworthiness. This paper proposes an STS (Science, Technology, and Society) approach to understanding the challenges and opportunities of achieving explainability and transparency in AI systems. We explore the concept of explainability in AI systems and analyze the limits of current approaches, such as model-agnostic techniques. We argue that an STS approach can provide a more comprehensive understanding of the social and technical factors that influence explainability. Finally, this work suggests that an STS approach can inform the development of policies and practices that promote explainability and transparency in AI systems. We conclude that a multi-disciplinary approach that integrates insights from STS, computer science, and other relevant fields is necessary to address the challenges of AI explainability and transparency.

Orfeas Menis - Mastromichalakis is an AI researcher and Ph.D. candidate at the Artificial Intelligence and Learning Systems laboratory (AILS) of the National Technical University of Athens (NTUA), with a specialization in eXplainable Artificial Intelligence (XAI). He holds an integrated master's degree from the School of Electrical and Computer Engineering of NTUA and he is currently a student on the "Science, Technology, and Society" Master's program of the National and Kapodistrian University of Athens (NKUA). He's been a member of the expert group on AI literacy of the Council of Europe, and he has co-founded a tech startup. His research interests include XAI, Natural Language Processing, and AI ethics.

Manolis Simos, Post-doctoral Researcher, Department of History and Philosophy of Science, National and Kapodistrian University of Athens

Aristotle Tympas, Professor, Department of History and Philosophy of Science, National and Kapodistrian University of Athens



PHOTO BY: MIDJOURNEY AI

*(In)preparing children and young people
for effective use of artificial intelligence.
A critical analysis of the core curriculum*

The surest feature of the 21st century world is becoming changeability. Due to the dynamic development of technology, for which people are not sufficiently ready, the media, labor market or socio-political life are undergoing significant transformations. A milestone may turn out to be the widespread access to artificial intelligence. We plan to discuss the phenomenon of the prevalence of advanced AI in relation to the analysis of general education core curricula, which are geared towards the assumptions of the reconstructive and adaptive function of education. It will be difficult to compete with AI when our strongest competence is to recreate what has been, and focus on the past. During the speech, we will try to answer the questions: what competencies are developed by the current core curriculum for general education? What competencies will be important in the society of the 21st century? What consequences can divergence in these areas lead to?

IWONA MURAWSKA KINGA MAJCHRZAK - PTAK NICOLAUS COPERNICUS UNIVERSITY IN TORUŃ, POLAND

Iwona Murawska, PhD., assistant professor at the Institute of Pedagogical Sciences at the UMK, graduate in pedagogy and cultural anthropology. Academically, she is particularly interested in the pedagogy of school, creativity, education of the gifted and contemporary educational challenges.

Email: imurawska@umk.pl

ORCID: <https://orcid.org/0000-0002-9691-4311>

Kinga Majchrzak-Ptak, graduated from Nicolaus Copernicus University in Torun with majors in pedagogy and history. Doctor of social sciences in the field of pedagogy. She works at the Institute of Pedagogical Sciences at the Nicolaus Copernicus University. Research interests: pedagogy of place, pedagogy of (places of) memory, intergenerational learning, construction of social, civic, intercultural, ethnographic competencies throughout life.

Email: imurawska@umk.pl

ORCID: <https://orcid.org/0000-0001-8616-9824>

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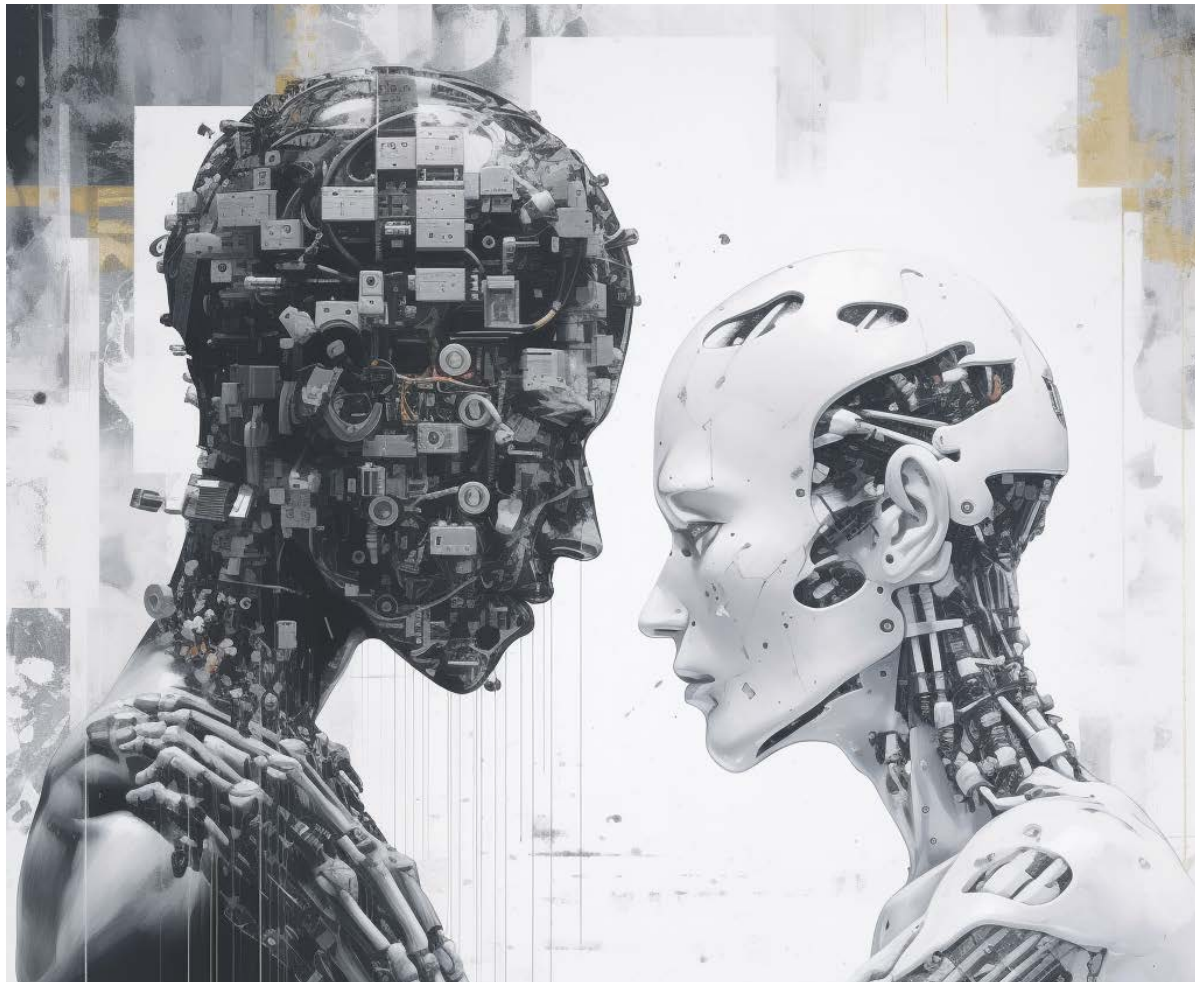


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Sidey Myoo is the scientific pseudonym, which comes from the net name, which was adopted by prof. dr hab. Michał Ostrowicki in 2007, in virtual world Second Life. Sidey Myoo is a philosopher, he works in Department of Aesthetics of Institute of Philosophy of Jagiellonian University, and in the Department of Theory of Media Art of Faculty of Intermedia in Academy of Fine Arts in Kraków. He interests in aesthetics, treated as a theory of art, mainly in relation to contemporary art, including new media art. Since 2003 he analyzes the philosophy of the web, and phenomena such as immersion, interactivity, telepresence, telemacity, hybridization, identity, artificial intelligence. In 2006 he used the notion of electronic realis (later virtual realis), which has become a basis for ontoelectronics, which is the

ontology focused on the analysis of virtual reality treated as a sphere of being. It is assumed here that the virtual reality is a kind of alternate reality to which man increasingly moves its activity, gaining network identity. Sidey Myoo is the author of articles, monographs and edited works on philosophy and arts. He has participated in national and international scientific events. In 2007 he founded the Academia Electronica (www.academia-electronica.net) – non-institutionalized part of Jagiellonian University, acting on the model of university in the virtual world Second Life (from 2008), AltSpaceVR (2021-22) and Spatial (from 2022), where are carried out official, academic courses and conference's presentations.

Email: sidey.myoo@uj.edu.pl

ORCID: <https://orcid.org/0000-0001-6163-4742>

SINGULARITY, EXPERT PROGRAM, ONTOLOGY

SIDEY MYOO

JAGIELLONIAN UNIVERSITY, POLAND

Singularity: The last thing man will invent

The topic of the talk is Singularity – the idea of artificial superintelligence, which, according to such researchers as Irving J. Good and Nick Bostrom, for example, that “the first ultraintelligent machine is the last invention that man need ever make.” This raises the question of man’s role in a world where he is no longer as necessary in many

decision-making situations as he once was. I will try to point out that the ontological dissimilarity of non-biological matter compared to biological matter has an impact on the dissimilarity of potential, speed and quality of various types of tasks performed. The presentation will be held remotely, additionally conducted in the virtual world of Spatial.



PHOTO BY: MIDJOURNEY AI

JOSEPH OLWENDO

PWANI UNIVERSITY, KENYA

*Using Machine techniques for ionospheric TEC prediction
at the low latitude regions*

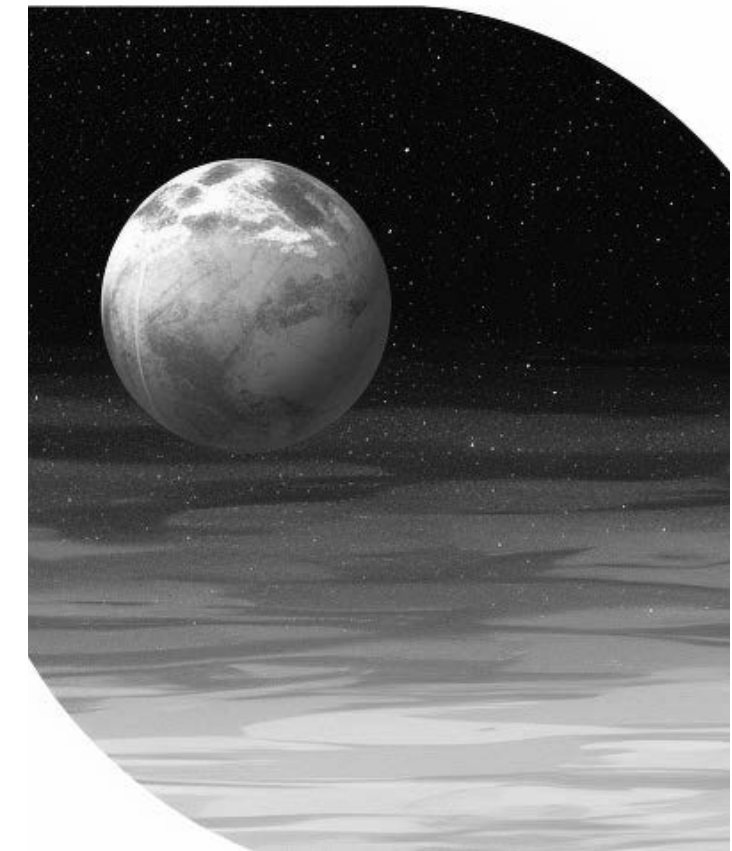
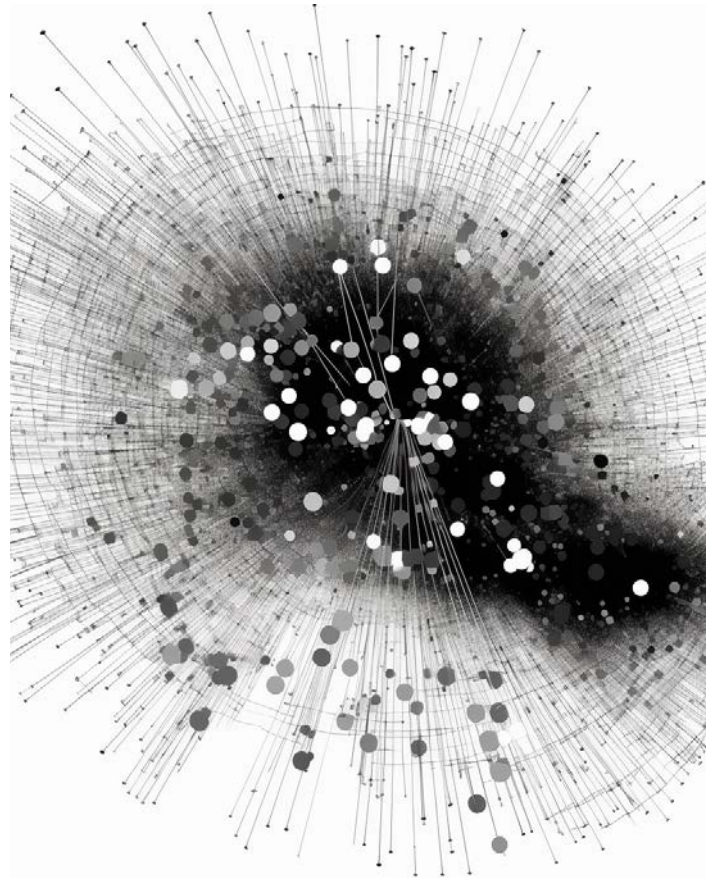


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Ionosphere is the region above the earth's atmosphere with sufficient electron density that can impact radio wave propagation. During advanced space weather dynamics, the highly variable ionosphere can adversely impact on radio communication. The ability to predict the ionization level is essential for supporting real-time space operations. In this work, we show the potential of using machine learning to predict ionization levels for operational purposes.

Joseph Olwendo
Email: j.olwendo@yahoo.com
ORCID: <https://orcid.org/0000-0002-6787-6731>



PHOTO BY: MIDJOURNEY AI

Michał Parchimowicz delving into the intricacies of pedagogy, exploring the intersections of education, media, and culture. Currently serving as a junior researcher at the Faculty of Social Sciences - Department of Pedagogy and Media Culture at the Polish University Abroad, he engages in research that draws from and contributes to his practical experiences. With a passion for lifelong learning, Michał's journey has encompassed both music and education, reflecting his deep commitment to creating an enriching and inclusive educational environment. His academic pursuits delve into the various dimensions of pedagogy, seeking

to understand and enhance the ways in which education and media intersect. By combining theoretical exploration with practical experience, Michał Parchimowicz brings a well-rounded perspective to his research. His dedication to fostering inclusive and transformative educational environments exemplifies his commitment to making a positive impact in the field of pedagogy. Michał Parchimowicz continues to deepen our understanding of the intricate relationship between education, media, and culture, while striving to shape pedagogical practices that promote growth, engagement, and inclusivity.

Email: michal.parchimowicz@puno.ac.uk
ORCID: <https://orcid.org/0000-0003-1024-3199>

EVOLUTION, CHATGPT, DATA PROCESSING, INTERACTION, MACHINE LEARNING

MICHAŁ PARCHIMOWICZ

UNIVERSITY OF SZCZECIN, POLAND

POLISH UNIVERSITY ABROAD, UK

The Evolution of ChatGPT Unveiling the Growth of a Revolutionary Language Model

In this presentation, I will illuminate the path of ChatGPT's evolution, tracing its advancement from an initial idea to its current version - GPT4, and contemplate its potential future enhancements. This journey will focus on the augmenting data processing capabilities of each version and how this progression has influenced ChatGPT's ability to interact with and learn from its inputs. I will discuss the first version of ChatGPT, highlighting how the model's ability to process and learn from a limited dataset enabled basic conversational capabilities. As we progress to GPT-2 and GPT-3, I will emphasize the marked improvement in language

comprehension and response generation, a result of training on more extensive and diverse data. The leap to GPT-3.5 and GPT-4, with its capability to process an unprecedented volume of data, has brought about significant advancements, enabling nuanced understanding and versatile dialogues across a wide range of topics. Finally, I will consider the potential future of ChatGPT, speculating on the implications of further increases in data processing capabilities for its learning potential and interaction quality. This comprehensive presentation aims to provide a deeper understanding of ChatGPT's evolution and emphasizing its data-driven growth.

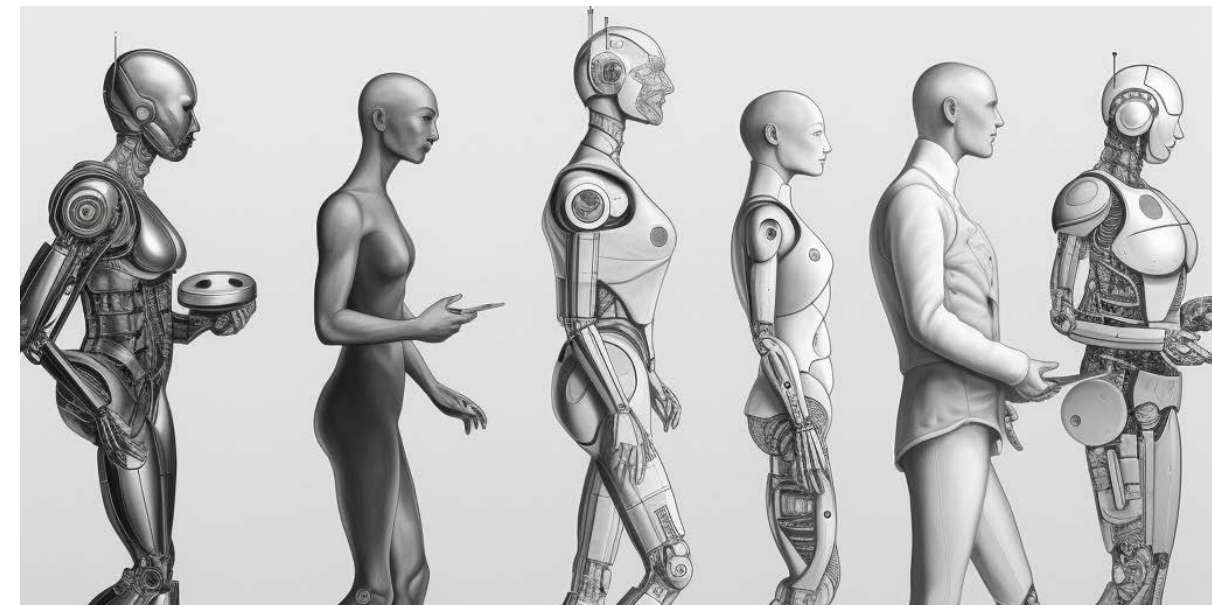


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ELZBIETA PERZYCKA - BOROWSKA

UNIVERSITY OF SZCZECIN, POLAND; POLISH UNIVERSITY ABROAD, UK

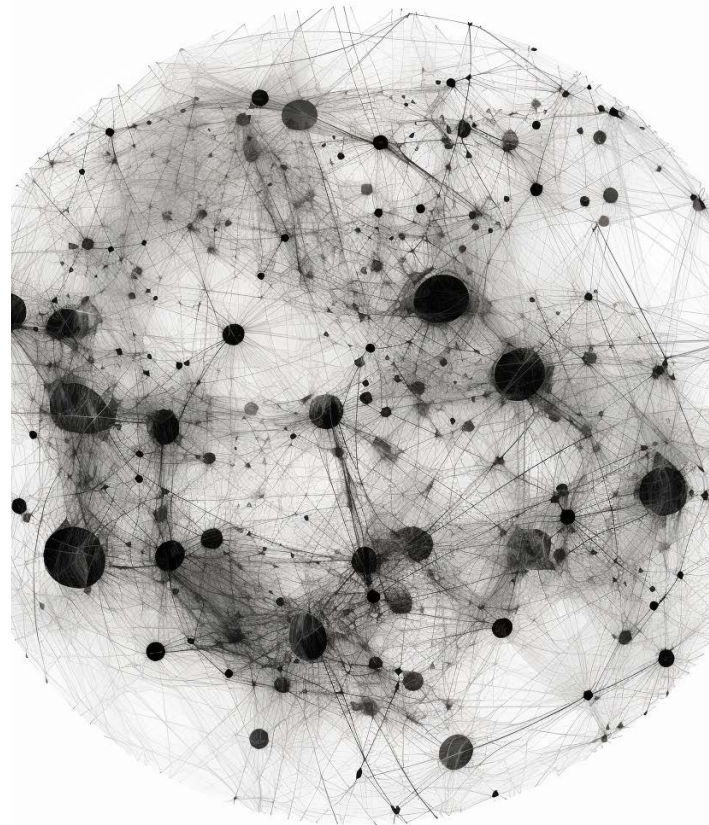


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Amplifying AI in Education: An Examination of Materials, Research, and Software Developed by a Global Network of Informal Academics

This presentation delves into the potential of artificial intelligence (AI) as an impetus in the transformation of global education, focusing on materials, research, and software developed by an informal network of academics across the world. It assesses the current state of AI integration into the learning ecosystem, scrutinizing its effectiveness, adaptability, and challenges. The primary focus lies on the innovative applications of AI, such as personalized learning, predictive analytics, intelligent tutoring systems, and automation of administrative tasks, that can revolutionize the conventional methodologies of teaching and learning. The research draws upon case studies and first-hand data collected from different regions globally, highlighting the disparate adoption and implementation

rates of AI-based education tools. A detailed analysis of these data reveals key themes, trends, and implications for both policymakers and practitioners. This presentation also underscores the issues of accessibility, ethics, and data privacy associated with the use of AI in education, offering strategic suggestions to address them. An in-depth understanding of these issues is instrumental for the effective scaling of AI technologies across varied educational contexts. The author calls for a collective, global effort towards harnessing AI's transformative potential in education, while ensuring the technology's ethical and responsible use. It contributes to the nascent but growing discourse on AI in education, offering insights that could shape future research and practice in this intriguing intersection of technology and pedagogy.

Elżbieta Perzycka-Borowska is a Professor at the University of Szczecin, as well as at the Polish University Abroad in London holding a PhD, in Social Science. Her expertise lies in the areas of teaching and learning, theory of culture, visual communication, digital information, technology in education, and digital competence. As the Chairman of the Associate Education and Culture Science, she has been instrumental in shaping the academic landscape in her field. Prof. Perzycka's impressive list of accolades includes a scholarship from the Norwegian Foundation for research and a grant to support her book project on the theory of digital information, explained through the lens of metacognitive visual culture. Her relentless pursuit of knowledge has garnered her recognition and support from various organizations and institutions. As an experienced researcher, Prof. Perzycka has played a pivotal role in coordinating and partnering with international research consortiums. She has been the coordinator of the SIT project within the MSCA-FP7 program and a partner of the TICASS project within the MSCA-Horizon 2020 programme. Currently, he is a partner of the CAPHE project within the Horizon Europe. Her activities bridge the gaps between theoretical frameworks and practical applications of technology in education.

Email: elzbieta.perzycka@usz.edu.pl; elzbieta.perzycka@puno.ac.uk

ORCID: <https://orcid.org/0000-0002-7829-3806>

JAKUB PETRI

JAGIELLONIAN UNIVERSITY, POLAND

Vertigo games. AI, robots and authenticity in somatic learning

AI driven robots are learning human motoric skills with better or worse results. However, do they just imitate pivoting, shifting, rolling, jumping or authentically jump, roll or pivot with their bionic bodies? The presentation follows up to Roger's Callois game theory, exclusively the Ilynx, a kind of somatic games connected with pursuit of vertigo, which function is to disrupt the perception of player in quest to obtain a state of an aesthetic pleasure of a difficult nature. In urban sports and many other somatic activities, this kind of pleasure is linked with the notion of authenticity, and constitutes the meaning and sense of performers being in the space. But, wait a minute, can robot has vertigo? What does it mean to be authentic in a robots world?

Dr. Jakub Petri, PhD, is an Associate Professor at the Institute of Philosophy at Jagiellonian University in Krakow, Poland. He is affiliated with the Department of Aesthetics, reflecting his academic specialization and interest in the philosophical understanding of aesthetics. He holds a Doctorate in Philosophy, validating his deep knowledge, proficiency, and expertise in this discipline. His work is, however, not confined within the conventional boundaries of philosophy. He takes an interdisciplinary approach, intermingling philosophical insights with insights from other academic fields to shed a unique light on various issues and topics. One of focal research areas is urban aesthetics, an increasingly relevant field of study in our increasingly urbanized world. Urban aesthetics explores how the physical design of cities and the sociocultural practices within them contribute to the aesthetic experience of urban dwellers and visitors. He work in this field aids in understanding how urban environments influence our perceptions, emotions, and behaviors. Another significant area of Petri's research is the philosophy of embodiment, with a particular emphasis on somatics and somaesthetics. The philosophy of embodiment explores how our bodies are not just biological entities but also pivotal components of our conscious and unconscious experience. By integrating these areas of study, contributes to an enriched understanding of the profound role our bodies play in how we perceive and interact with the world around us.

Email: jakub.petri@uj.edu.pl

ORCID: <https://orcid.org/0000-0002-0584-470X>



JAROSŁAW SOLECKI POLISH UNIVERSITY ABROAD, UK

Artificial Intelligence as a tool for the artist creating generative art

Although artificial intelligence (AI)-based tools are a relatively young invention, it is already known that they can provide interesting and effective support for artists, especially those creating virtual worlds and objects. In my presentation, I will focus on the use of these tools in the context of my creation of a generative art installation, which I worked on as part of the educational project 'Buildspace' in San Francisco (USA, 2023). I would like to highlight, on the one hand, the innovative approach to working on the art project itself and, on the other hand, the possibilities that AI tools offer. I will talk about a model of working, the so-called 'build in public'. This is the practice of publishing the results of the work on an ongoing basis on social

media to engage a wider audience in the creative process. During my presentation, I will talk about tools that can assist artists in writing and editing posts, creating concise, compelling and engaging content. This allows artists to focus on the creative side of their work. During the talk, I will also outline how AI tools can support the process of creating the very code on which generative art is based, including using JavaScript programming language applications. I will discuss both situations in which these tools have proven to be an invaluable help and moments in which I have abandoned them altogether. I will provide specific examples and experiences of using AI to generate code in my art project.



PHOTO BY: MIDJOURNEY AI

Jarosław Solecki, artist living in England, graduate of the University of Arts in Poznań (Poland), awarded Arts Council England art grant. He is currently a research fellow at the Institute of European Culture of the Polish University Abroad in London (PUNO), working on the anthropology of visibility and new media. He is a member of the British Association for Slavonic & East European Studies (BASEES). His main areas of artistic activity are: sculpture; performance art in public space; socially engaged

art [social exclusion]; virtual environments; possibilities of combining new technologies and art with visual communication in public space (project: Blue Point Art Gallery London). He was also a participant in the art and research project TICASS: Imaging technologies in communication, art and social sciences (Horizon 2020 EU no 734602). His most recent work is the XR art installation 'Milkmaid's Pitcher' from the 'Dystopia of Imitation' series.

Email: jaroslaw.solecki@puno.ac.uk



PHOTO BY: MIDJOURNEY AI

ROBERTA (ROBIN) SULLIVAN

TEACHING & LEARNING STRATEGIST UNIVERSITY AT BUFFALO, USA

SUNY Exploring Emerging Technologies for Lifelong Learning and Success (#EmTech)

Employers are looking for more than a college degree when hiring today's workforce. They expect potential employees to be conversant in 21st-century skills including communication, collaboration, creativity, and critical thinking. The State University of New York (SUNY) Exploring Emerging Technologies for Lifelong Learning and Success (#EmTech; <http://suny.edu/emtech>) is designed to address these needs. This online learning opportunity is an open-access resource targeted to the lifelong learning needs of faculty, staff, students, and anyone from across the globe with an interest to keep pace with continually evolving technologies. The main objective is to instill strategies to develop lifelong learning habits to stay current with emerging technologies. Those who enroll in #EmTech, participate in hands-on activities to explore a variety of digital tools. Participants are involved in discovery-based learning and are encouraged to develop an ePortfolio to showcase the artifacts they create through the course to highlight their skills and accomplishments. Through their participation, they gain an understanding of the value and implications of using established and emerging technologies for personal and professional growth. An underlying principle promotes lifelong learning and a growth mindset, both are necessities to keep pace with technology change. Learn how your institution can benefit by offering this free professional development opportunity to its communities.



PHOTO BY: MIDJOURNEY AI



PHOTO BY: MIDJOURNEY AI

Roberta (Robin) Sullivan is a Teaching and Learning Strategist at the University at Buffalo, State University of New York (SUNY), where she works with the newly formed LINKT center within the University Libraries. In addition to her role at LINKT, Sullivan directs SUNY Exploring Emerging Technologies for Lifelong Learning and Success (#EmTechMOOC; <http://suny.edu/emtech>), an acclaimed global online learning program that has been recognized nationally and internationally over the past ten years. Sullivan is dedicated to researching innovative digital pedagogy and supporting stakeholders in implementing emerging technologies to enhance teaching and learning. As Chair of the UB Libraries Immersive Experiences Group (IEG), she explores the potential of extended reality technologies, including augmented, virtual, and mixed realities (AR/VR/MR/XR), to support teaching and learning. Her expertise and commitment to the field have been acknowledged with a SUNY Chancellor's Award, three SUNY Faculty Advisory Council on Teaching and Technology (FACT2) Excellence Awards, and three SUNY Online Effective Practice Awards.

SUNY EmTech: <http://suny.edu/emtech>

Portfolio: <http://buffalo.edu/~rrs>

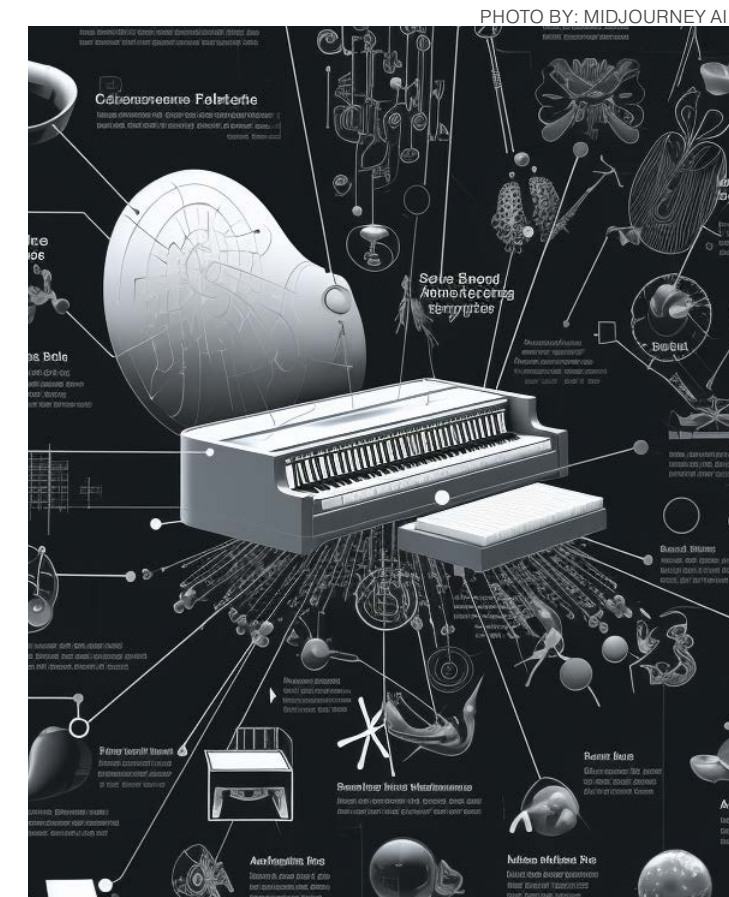
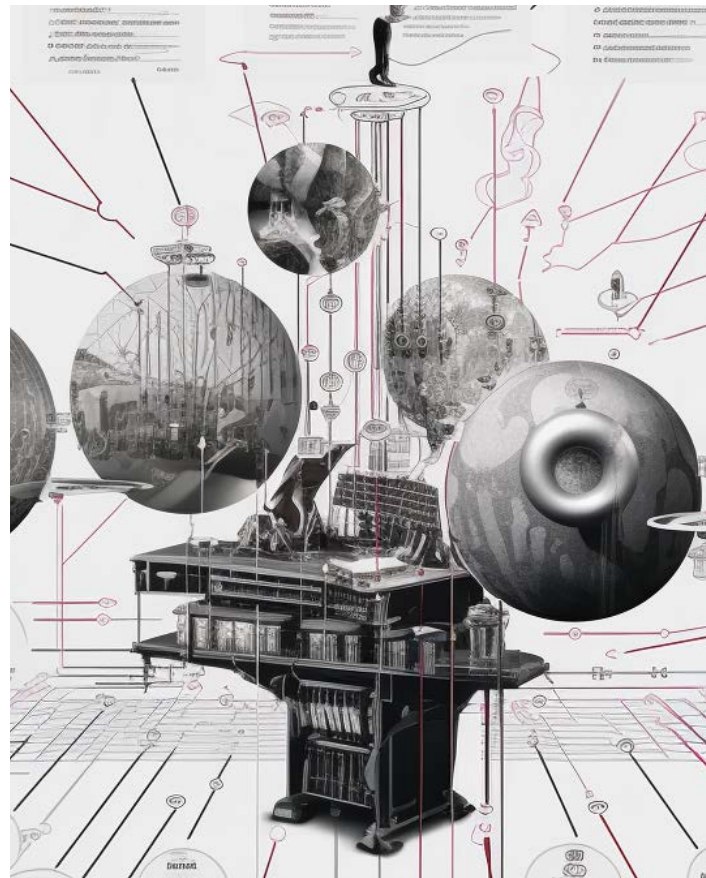
Twitter: <https://twitter.com/RobinSullivan>

LinkedIn: <https://www.linkedin.com/in/robertarobinsullivan>

Email: rrs@buffalo.edu

AGNIESZKA SZAJNER

POLISH UNIVERSITY ABROAD, UK



Agnieszka Szajner is a graduate of the University of Education in Slupsk (Department of Music Education). She accomplished 1st and 2nd degree of music school in violin as well as completed postgraduate studies in Educational Management and Marketing at WSP in Warsaw. She received degree of Doctor of Social Science (Ph.D.) in the field of education in February 2013. For many years, she has been focusing on the topics of migrants and immigration as well as issues of integration and intercultural education. Author of book „Intercultural education of pupils in Polish School in Athens” and numerous scientific articles such as “Opinions and remarks on the Polish Greeks (2006); “Poles in Greece” (2006); “Polish School in Athens and other institutions shaping the identity of Polish immigrants in Greece” (2007); “Polish School and other institutions shaping the contemporary Polish enclave in Athens” (2009); “Polish Centre of Art and Vocational Education in Athens” (2009); “Polish Diaspora and Polish Education in Greece” (2010); “Intercultural Education in Greece in terms of communication challenges of the modern world” (2012). Recently, she has been working as thematic editor of “Diaspora” magazine. For many years associated with the polish diaspora in Athens, worked as polish school teacher at the Zygmunt Mineyko Polish School in Athens as well as the president of the Independent Association of Polish Women in Greece. Founder of the Centre of Art and Vocational Education. Conductor of children’s choir. Currently associated with Polish University Abroad as a Deputy of Humanistic Department in London.

Email: agnieszka.szajner@puno.ac.uk

ORCID: <https://orcid.org/0000-0003-2197-1810>

Artificial intelligence as a creative partner in the process of supporting music education

Modern advances in artificial intelligence are opening up new possibilities in the context of music. This scientific presentation will focus on the application of artificial intelligence in various areas of music, including the process of creating music, its teaching and use in music therapy. We will look at advanced techniques, algorithms and tools that support both professional musicians and music educators in their work.

SANDRA ŚCIERANKA

UNIVERSITY OF RZESZÓW, POLAND

Sandra Ścieranka, PhD student at the University of Rzeszów - at the Institute of Pedagogy. My scientific interests focus on issues related to the work of a teacher. I work in the social welfare sector on a daily basis.
Email: sandrascieranka@onet.pl

PHOTO BY: MIDJOURNEY AI

PHOTO BY: MIDJOURNEY AI

A teacher in the age of digitization - challenges and difficulties

The tasks of a modern teacher are definitely different from those he had to perform a dozen or so years ago. In the era of various changes taking place, constantly developing, but also accompanying digitization in every sphere of life, the role of the teacher takes on a new meaning - flexibility and openness to changes on his part become necessary. Therefore, teachers face new challenges, roles and skills to expand. The conducted considerations are aimed at showing the impact of digitization both on the daily work of the teacher, the implementation of individual functions, as well as his relationship with students.



JAKUB ŚLEDZIOWSKI

UNIVERSITY OF SZCZECIN, POLAND

Analysis of coastal dune morphodynamics using machine learning methods

Jakub Śledziowski, PhD student at the Institute of Marine and Environmental Sciences at the University of Szczecin, licensed UAV pilot (VLOS, BVLOS), PPG pilot, UAV instructor. Geographer, GIS specialist, he conducts scientific research in the coastal zone using UAVs and various spatial imaging techniques using photogrammetry and LiDAR.

Email: jakub.sledziowski@usz.edu.pl

The poster presents research conducted on the coast of the southern Baltic Sea, located on the western side of the Rega River estuary in Mrzeżyno (Poland), where relevant dynamic processes in the coastal zone were recorded. This study aimed to assess the feasibility of using unmanned aerial vehicles (UAVs) with multidimensional datasets acquired using a light detection and ranging (LiDAR)-equipped UAV to conduct continuous spatial monitoring in the area. An additional goal was to quantitatively assess the changes occurring in the coastal zone in the study area and apply a machine learning process to analyze the acquired data and identify potential causes of these changes and significant shore erosion. This research was conducted over two years from September 2020 to November 2022. A 600 m long and 100 m wide section of land was selected for continuous monitoring. The top of the dune at this location was covered with low vegetation and was adjacent to a dense coniferous forest. Significant geomorphological changes in the coast and apparent erosion of the dune were observed during this study. The study results indicate that the morphological changes in this section of the southern Baltic coast are dynamic and are caused by intense storms (superstorms) or progressive sets of several high-strength storms that affect natural beach processes, such as sediment transport and erosion. This study highlights the importance and usefulness of LiDAR-equipped UAVs for coastal geomorphological studies because they provide accurate and high-resolution terrain data in a rapid timeframe. Moreover, the laser beam can directly penetrate to the ground level through vegetation cover, allowing for more accurate point cloud classification and numerical terrain model (DTM) modeling.



KRYSTIAN TUCZYŃSKI

UNIVERSITY OF RZESZÓW, POLAND

The Cognitive Component Of Academic Teachers' Attitudes Towards E-Learning Research Report



PHOTO BY: MIDJOURNEY AI

The 21st-century information society, fueled by the constant evolution of technology, necessitates a reevaluation of current educational models in higher education. The presentation aims to address the evident shortcomings in contemporary systems, where the assimilation of knowledge, primarily delivered by teachers, fails to meet the dynamic needs of modern learners. Recognizing these deficiencies as opportunities for change, I propose a shift towards distance learning or e-learning as a viable alternative, capitalizing on advancements in information technology. E-learning, successfully implemented across various European educational levels, provides a dynamic and flexible learning environment, breaking away from traditional education paradigms. This approach promotes a balanced blend of knowledge acquisition, utilization, and generation, with information technologies serving as tools to facilitate learning rather than driving it. The role of educators in this model is to continuously update their skills, respond rapidly to emerging needs, and influence students' attitudes towards learning. My research scrutinizes the potential of e-learning in the Polish academic landscape, offering insights into how this form of education can address the current deficits and usher in an era of innovative and responsive teaching and learning.

Krystian Tuczyński, PhD., in the field of Management of an educational institution with a reformed education system, and in the field of Career counseling and job placement. He work at the Department of General Didactics and Educational Systems of the Faculty of Pedagogy. Tuczyński's efforts extend beyond academia to regional educational projects. In 2017, he led cryptography activities for schools in the Podkarpace region under the Ministry of National Education's project. In 2018, he served as faculty coordinator for the "Unified Program Integrated University of Rzeszów - the way to high quality education" project, contributing to enhancing academic quality. Additionally, he oversees a course for academic teachers to integrate e-learning into their teaching process. Through his popular classes at the Small University of Rzeszów, he disseminates knowledge to a wider audience. Tuczyński's academic contributions include 25 publications on e-learning in academic education and education rights administration systems. He's broadened his perspectives through four study visits to Banska Bystrica (Slovakia), Cordoba (Spain), Yerevan (Armenia), and Tbilisi (Georgia), and teaching internships in Olomouc (Czech Republic), Banska Bystrica (Slovakia), and Nitra (Slovakia).

Email: ktuczynski@ur.edu.pl

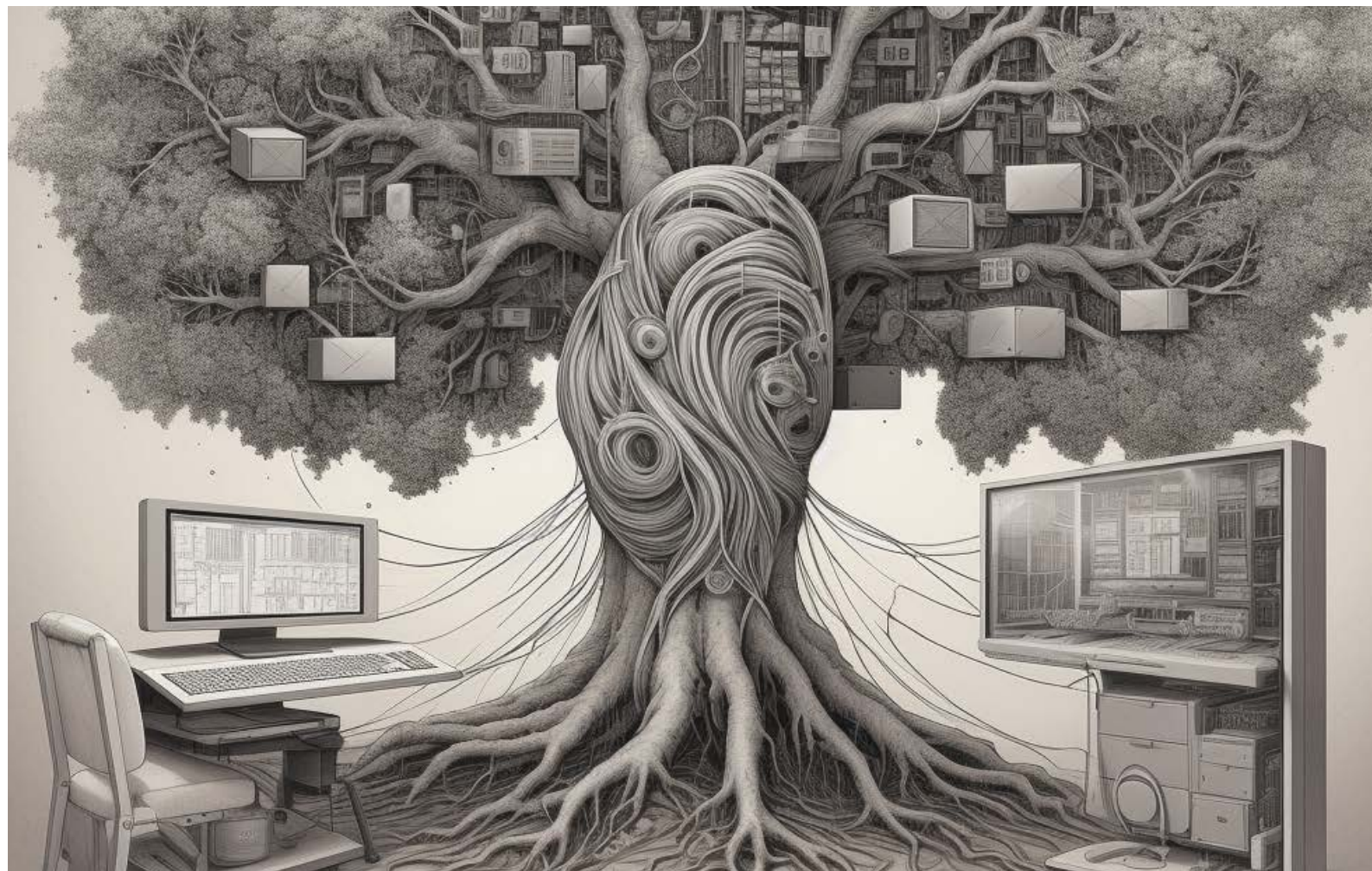


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OLEKSANDR VERETILNYK

UNIVERSITY OF SZCZECIN, POLAND

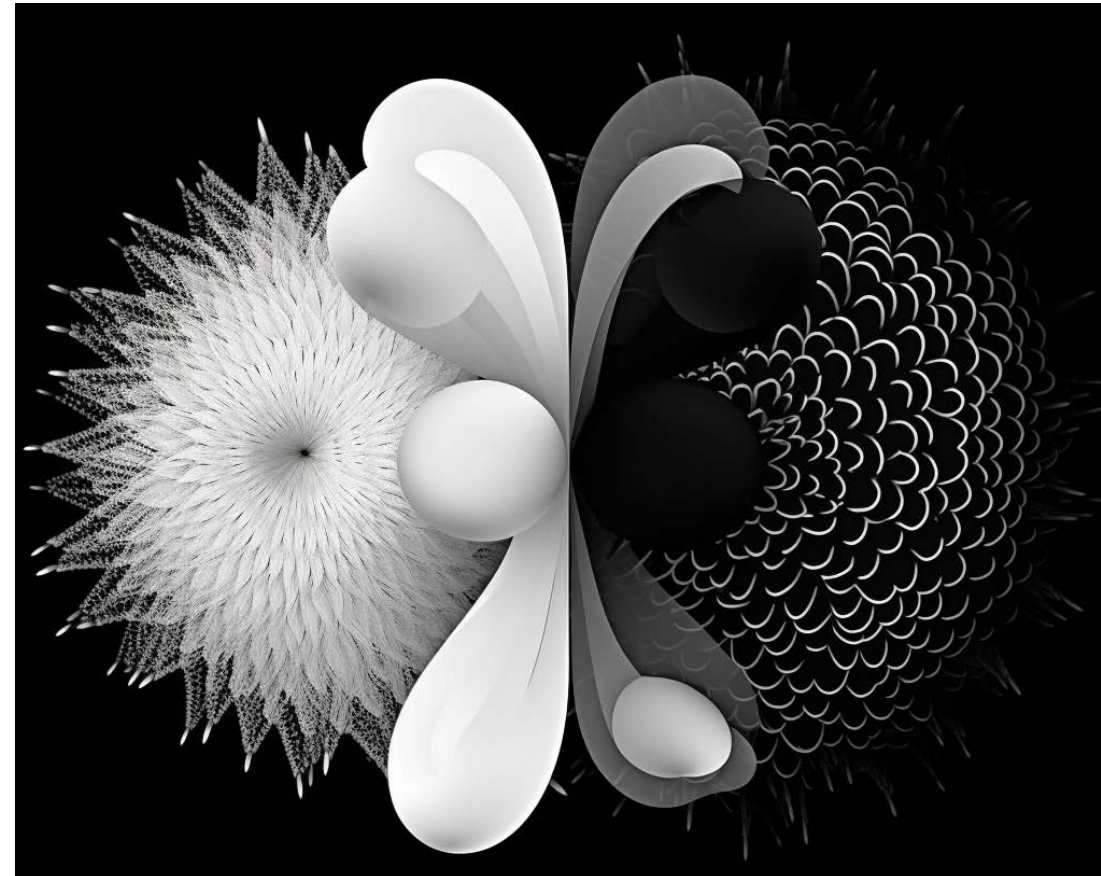
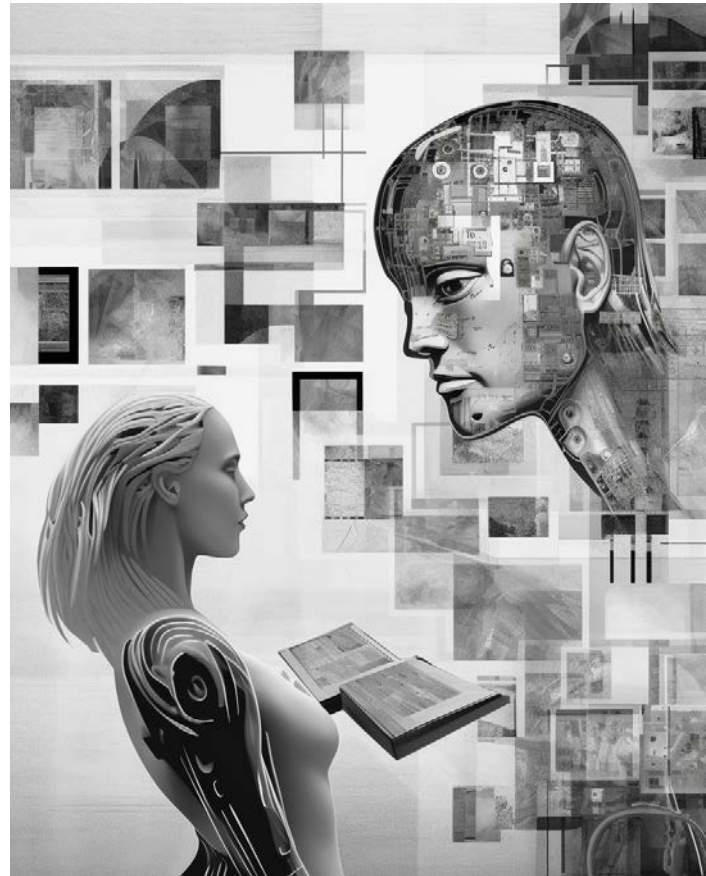


PHOTO BY: MIDJOURNEY AI

In 2022, an artificial intelligence (AI) teaching program was launched in Tajikistan's universities. The specialization 'Artificial Intelligence' was introduced at five universities for the academic year 2022-2023, offering bachelor's and master's degrees. The program is part of the implementation of the 'National Strategy for Artificial Intelligence of the Republic of Tajikistan,' which also includes plans to introduce AI lessons in the school curriculum. Students will learn both theoretical and practical aspects of AI, as well as the principles of working with AI generators like GPT-4, DALL-E 2, Midjourney, Synthesia.io, and others. Currently, 11 higher education institutions in Tajikistan participate in the program. The country's totalitarian regime claims that this program is part of a broader national strategy for progress and economic development. The investment in AI education aims to accelerate economic and scientific development, improve citizens' quality of life, and create better conditions for doing business in Tajikistan. However, some argue that the introduction of AI curricula may be a populist move by the regime to create an illusory impression of scientific and technological progress in Tajikistan, one of the poorest and least developed countries in the world. Another concern is whether students and lecturers at Tajikistan's universities will be able to freely and critically research and analyze topics related to AI and its potential impact on the country's social and economic development. Given the country's high levels of poverty, lack of political freedom, human rights violations, and corruption, the effective introduction of AI courses requires thorough scientific study and analysis.

Studies on Artificial Intelligence in Higher Education Institutions in Tajikistan: Populism or a Step Forward towards the Future?

Oleksandr Veretilnyk is a PhD student at the Doctoral School of the University of Szczecin, where he represents the sciences of politics and administration and is preparing a doctoral dissertation under the supervision of dr. hab. Renata Podgórska, prof. U.S. At the same time, the author is an assistant at the Department of Research on Migrations and Social Movements of the Institute of Political and Security Sciences of the University of Szczecin, where he teaches the following subjects: Migration policy in Poland, Migration processes in the modern world, International security organizations, Euro-Atlantic security, State and civil society in relation to security. The author's research interests include: Afghanistan, the Middle East (in particular the Israeli-Palestinian conflict, the dispute over the Golan Heights, the Iranian nuclear programme), South Asia, international relations, post-Soviet Central Asia, Sunni-Shiite relations, regional and international security.

Email: oleksandr.veretilnyk@phd.usz.edu.pl

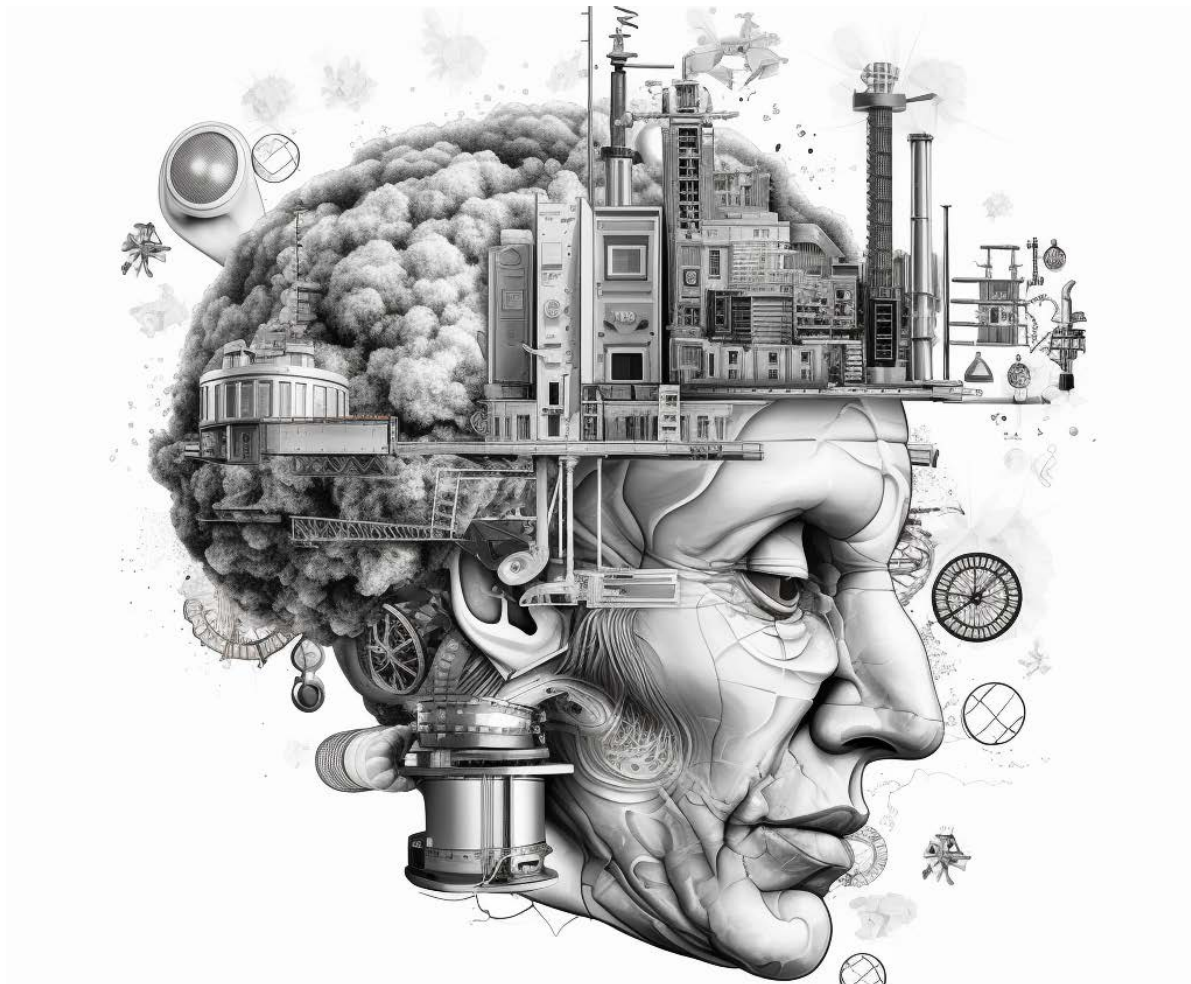


PHOTO BY: MIDJOURNEY AI

Wojciech Walat, PhD in the humanities in the field of pedagogy (specialties: general pedagogy, general didactics), professor at the University of Rzeszów. Research interests include the theory of school books, technical and IT education as well as the principles of functioning of educational systems. He is the head of the scientific journal Education - Technology - informatics. Author

or co-author of several hundred scientific and popular science publications, including monographs and school textbooks, workbooks and programs for teaching technology and computer science for primary and middle schools.

Email: wwalat@ur.edu.pl

ORCID: <https://orcid.org/0000-0002-3158-1923>

STEAM, SMART EDUCATION, ENVIRONMENT OF EDUCATION

WOJCIECH WALAT

UNIVERSITY OF RZESZOW, POLAND

STEAM as an environment for designing of smart education system

STEAM in education is an approach to learning that uses science, technology, engineering, art, and math as access points to guide students' inquiry, dialogue, and critical thinking. It paper also presents a framework that takes into account the design and development

of intelligent learning environments to support learning activities both online and in the real world. In addition, some emerging technologies that can facilitate the development of smart learning environments are discussed, as well as features and criteria for smart learning.



PHOTO BY: MIDJOURNEY AI

TOMASZ WARCHOŁ

UNIVERSITY OF RZESZÓW, POLAND

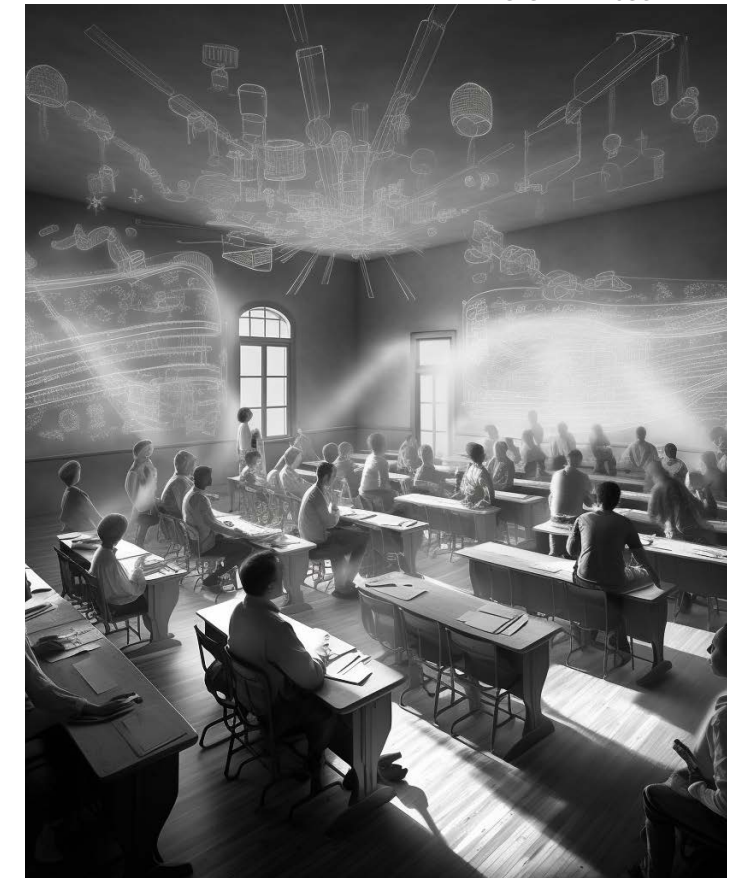


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The article presents the results of research aimed at identifying the inspiration activities of primary school pupils in non-formal education activities. The article sets out the following research issue: How do the inspiration activities of primary school pupils participating in non-formal education change? The specific questions concerned the following areas: Is there a change in pupils' behaviour between the first and last classes? What behaviours characterise pupils in the first and last classes? What is the intensity of inspiration for pupils in the first and last classes? The research was carried out by the method of controlled direct observation with the use of recording means, i.e. video cameras. At present, teachers benefit from additional forms of education which are designed to support the teaching process. This is an interesting environment for research exploration because there is no research in this area in the context of inspiration of pupils. Therefore, it seems that in the future, education will be largely based on additional classes for pupils in the form of non-formal education. Research shows that 1 in 2 primary school pupils participating in non-formal education have changed their behaviour from negative to positive. In addition, in the last classes the pupils were characterised by behaviours that were defined by the highest degree of inspiration. It is worth adding that the intensity of the inspiration of pupils increased during observation, from the initial to the final observations.

Inspiration activity of primary school pupils during non-formal education classes

Wojciech Warzocha, PhD, an innovative leader in educational technology and systems design with a passion for augmenting traditional learning experiences. His work primarily focuses on the application of information and communication technologies in education, with a special interest in remote education and its possibilities. His diverse expertise extends to designing immersive educational environments using augmented technology and virtual reality. Wojciech has a knack for utilizing these emerging technologies to create interactive textbooks, transforming the learning landscape and fostering engaging non-formal and informal education. He has spearheaded numerous projects showcasing his dedication to evolving educational strategies. Notably, he led the project "Don't talk to me ENIGMATICALLY" under the "University of Young Explorers" program, implemented between February and June 2017. Later, he executed the "University of Rzeszów for young explorers" program from June 2018 to December 2019. In May 2021, Wojciech Warzocha launched the "Expand your imagination" project under the "Student Scientific Circle for Creating Innovations" program. Currently, he leads the "Young Explorers of the University of Rzeszów" as part of the "Social Responsibility of Science" program, a project set to run from December 2021 until November 2023.

Email: twarchol@ur.edu.pl

ORCID: <https://orcid.org/0000-0002-7978-8149>

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Tomasz Warzocha, PhD., assistant professor at the Institute of Pedagogy at the University of Rzeszow. Author of more than 30 scientific publications consisting of articles, chapters in monographs and author's monographs in the field of university teachers' competence, information and communication technologies and higher school didactics. Active participant in Polish and international conferences. Member of national and international research teams.

Reviewer in journals of worldwide scope. Member of the scientific committee of the international conference Social Problems and member of the organizing committee of the conference Education-Technology-Informatics. Multiple recipients of the Erasmus + program and a scholarship from the King of Spain for improving language skills.

Email: twarzocha@ur.edu.pl

ORCID: [https://orcid.org/0000-0001-](https://orcid.org/0000-0001-8393-3989)

8393-3989

COMPETENCE, AI, ACADEMIC TEACHERS, ICT

TOMASZ WARZOCHA

UNIVERSITY OF RZESZÓW, POLAND

(Non)competence of artificial intelligence

In recent years, there has been significant development of information and communication technologies in every area of society. Beginning with applications, portals related to shopping, online booking of self-driving vehicles - cabs, development of machines and software serving the creations of technology in the industrial sector and educational solutions related to the development and improvement of neural networks responsible for forecasting and solutions for the country's economy. The ability to use solutions related to the capabilities of constantly learning neural

networks, has contributed to the development of new solutions such as applications related to artificial intelligence - such as the recently famous ChatGPT. At this point it is worth considering to what extent such solutions introduced into society are tools that improve and to what extent they hinder functioning. Can we talk about the competence(s) of artificial intelligence or rather (in)competence related to continuous learning, improvement and use of knowledge, which users themselves input in the form of specific data, and on the basis of which AI learns and returns to us the final value.

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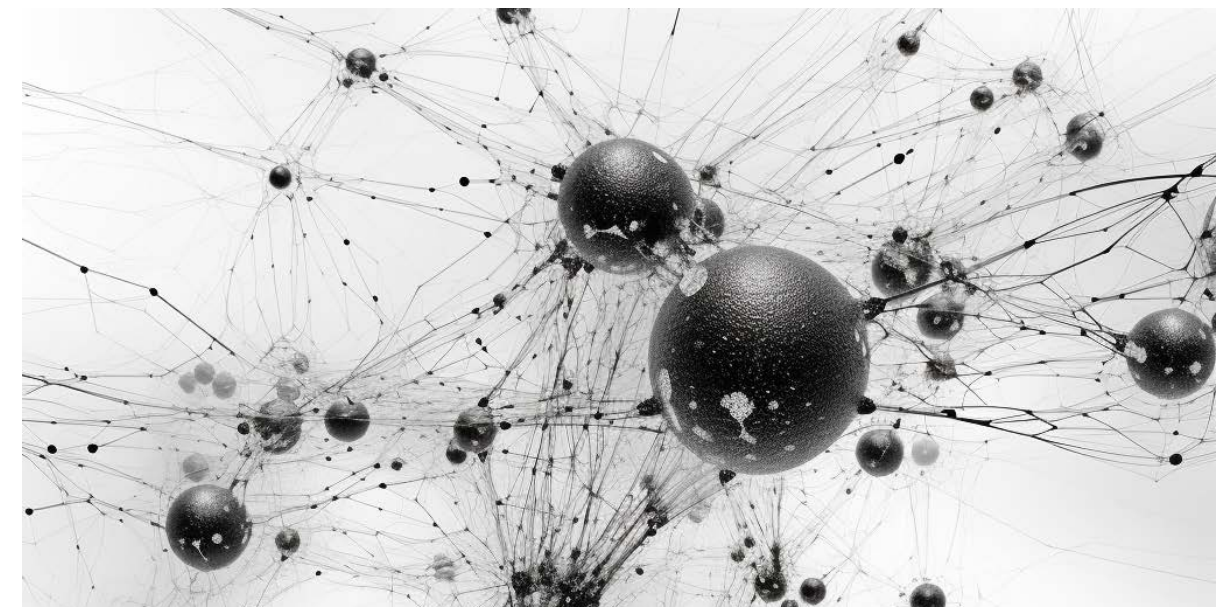


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LIDIA MAREK MAGDALENA WLAZŁO

UNIVERSITY OF SZCZECIN, POLAND

From technophobia to cyberparanoia - anxious reactions to artificial intelligence

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The patchwork modern world is characterized by a high level of technicization of life, but also a high level of its unpredictability. Artificial intelligence technology, which is developing at a rapid pace raises numerous and varied concerns. The fear is that it will largely destructure the labor market and its further development can get out of control and disrupt society on a global dimension. Some of the anxieties turn into fears. Phobias are born. Technophobia is an irrational anxiety (fear) of any impact of advanced technology on our life. It is not only a negative attitude (negative beliefs, unpleasant emotions) towards technology. It is definitely a more complex anxiety that is also expressed in a sense of constant threat. It can lead to cyberparanoia, delusions of persecution and a constant sense of threat to experience cybercrime on a broad scale. In the presentation we attempt to characterize the rational and irrational fears of artificial intelligence based on an analysis of selected contemporary psychological concepts.

Lidia Marek, PhD in Pedagogy, teacher, University of Szczecin lecturer; her main interests oscillate around the notion of responsibility in education, the pedagogical aspects of leisure, promotion of the teenagers' activity in social life as well as the idea of a 'global citizen'. Author of monographs and articles in journals in which she deals with the issues of general pedagogy, social pedagogy and academic didactics.

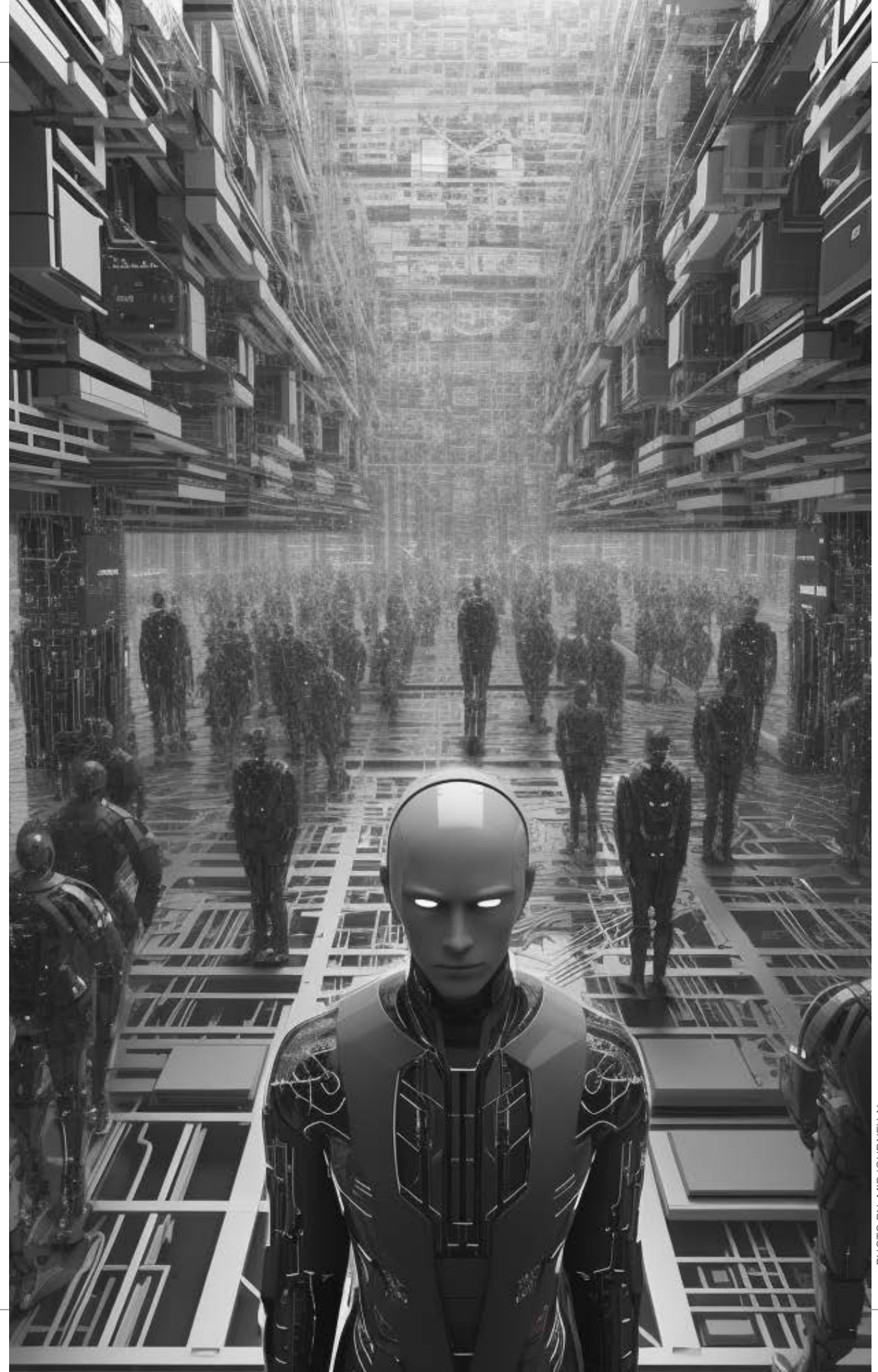
Email: lidia.marek@usz.edu.pl

ORCID: <https://orcid.org/0000-0002-8705-2510>

Magdalena Wlazło, M.A. in Cultural Animation at the University of Szczecin, cultural animator and social activist. Chairperson of the PASJA Scientific Circle of Leisure Time Animators. Works at POLITES Association where she is a coordinator of volunteers in the European Solidarity Corps program.

Email: magdalena.wlazlo@usz.edu.pl

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Dear Authors and Readers,

As we draw to the close of this unique journey through text and visualizations, we wish to express our gratitude for your engagement with this innovative book abstract. This blend of abstracts and AI-generated imagery is not just an experiment in interdisciplinary discourse—it is a statement of belief in the power of varied perspectives and the beauty of intellectual and artistic fusion.

We hope this collection has enriched your understanding of artificial intelligence's role and potential in both the sciences and arts. Our aim was to create a multisensory experience that broadened the pathways of engagement with the research presented and inspired deeper, more nuanced conversations.

May the insights gleaned from these pages continue to provoke thought and spark dialogue long after you've turned the final page. The end of this book is not the end of your journey but a stepping stone to further exploration. The fields of artificial intelligence, science, and art are continually evolving, continually pushing boundaries, and we hope that this publication has inspired you to become a part of that dynamic evolution.

Remember, the beauty of this confluence of disciplines is not just in comprehending what exists, but in imagining what could be. Let the abstracts and their visual counterparts in this monograph be a catalyst for new ideas, new questions, and new frontiers of knowledge and creativity.

On behalf of the entire team behind the conference, we thank you for your time and engagement. We hope this has been as rewarding an experience for you as it was for us to bring book abstracts together.

Stay curious, stay inspired, and keep exploring the endless possibilities at the intersection of artificial intelligence, sciences, and arts.

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