

About the 5th International Conference on AI Research, 2024

The International Conference on AI Research (ICAIR) is becoming a key forum for academics and students, whether social scientists, natural scientists or philosophers come together to explore the future of society in the context of AI. Many aspects of AI are now the subject of peer reviewed academic research, including the increasing use of Chatbots and GenAI in academe and in society at large.

The conference was initially launched in 2019 as the European Conference on Artificial Intelligence and Robotics. After a success inaugural event in Oxford the conference fell victim to Covid and the following three years were held online. Time was taken in 2023 to refocus this fast-developing area of research and the name of the conference was changed this year to the International Conference on Artificial Intelligence.

The Proceedings of the 2024 edition of the conference include academic research papers, PhD research papers, master's Research papers and work-in-progress papers, all of which have been presented and discussed at the ICAIR 2024 conference. The proceedings are of an academic level appropriate to a professional research audience, including graduates, post-graduations, doctoral and post-doctoral researchers. All papers have been double-blind peer reviewed by members of the Review Committee.

Aims and Scope

The International Conference on AI Research (ICAIR) is an opportunity for academics, practitioners, and consultants from around the world who are involved in the study, management and development of artificial intelligence related issues in education, in business or in the public sector to publish and present their research. It seeks to bridge the gap between academic research, practical applications and policy-making. With a multi and trans-disciplinary scope the conference attracts research from diverse settings.

Topics Covered

The call for papers for ICAIR 2024 asked for contributions that considered the following topics. In addition the committee welcomed papers on a number of specialist mini-tracks which can be seen at the end of this list.

- The consequences of AI on work and society
- The governance of AI and AI in governance
- Regulations for AI safety
- Enabling knowledge networks with cognitive computing and other technologies
- Ethical and acceptable social behaviours
- Organisational and social impact of AI

- How can AI explain its thinking?

Further applications of AI including:

- GenAI and AI Chatbots
- Fintech and the financial services industry
- Life sciences and healthcare
- Utilities and transport management services
- In the development of Smart-cities
- In education and training
- In scientific research
- In healthcare
- Collaborative robots and human-robot interaction
- Society 5.0

Experts in the field proposed mini tracks on the following topics. Papers accepted on these topics after the double-blind peer review process were presented as mini tracks at the conference and are also published in these proceedings.

Mini Tracks

- Transforming the Future: How Generative AI and LLMs are Revolutionizing Digital Transformation
- Ethical and Societal Implications of AI
- AI and Educational Research and Researchers
- Examining the Future of AI and Human Systems Integration

Full details about the conference can be found on the conference website:

<https://www.academic-conferences.org/conferences/icair/>

ICAIR Editorial

These proceedings represent the work of contributors to the 2024 International Conference on AI Research (ICAIR) hosted by ACI and the Universidade Lusófona, Lisbon, Portugal on 5-6 December 2024. The Conference Chair was Professor Carlos Gonçalves and the Programme Chair was Professor José Carlos Dias Rouco both from Universidade Lusófona.

ICAIR is fast being recognised as well-established event on the academic research calendar and now in its key aim remains to provide the opportunity for participants to share ideas and meet the people who hold them. The scope of papers accepted for the conference this year provided participants with a most interesting two days. The subjects covered illustrated the wide range of topics that fall into this important and fast-growing area of research.

The opening keynote presentation was given by Professor José Borges from the Portuguese Military Academy, who will talk about The Impact of AI Limitations in Relation to Defence Applications. The second day of the conference was opened with an address from Carlos Maio, Executive Manager and Founder QSR who discussed AI: The Demographic Inverted Pyramid.

With an initial submission of 127 abstracts, after the double blind, peer review process there are 54 Academic research papers, 4 PhD research papers, and 1 Masters Research papers published in these Conference Proceedings. These papers represent research from Brazil, Canada, Denmark, France, Germany, Italy, PERÚ, Poland, Sweden, UK, and USA.

We would like to thank everyone who participated in this conference.

Carlos Gonçalves and José Carlos Dias Rouco
Universidade Lusófona, Lisbon, Portugal
December 2024

Biographies of Chairs and Keynote Speakers

Conference and Programme Chairs

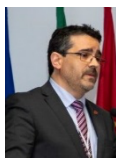


Carlos Gonçalves is an Associate Professor at Lusophone University - School of Economic Sciences and Organizations - Department of Management on Civil Aviation and Airports. Researcher on Complexity Sciences, Chaos Theory, Risk Science, Quantum Technologies, Artificial Intelligence, Strategic Studies, Studies in Intelligence and Security, FinTech and Financial Risk. Software developer in the fields of Complexity Sciences, Chaos Theory, Artificial Intelligence, Data Science and Quantum Technologies. Digital artist working on fractal art, music and applications of generative AI to both visual art and music



José Carlos Dias Rouco is an Associate Professor of Human Resource Management in the School of Economic Sciences and Organizations at Lusofónia University. He obtained her PhD from Lusíada University in 2012. He holds a Master's degree in Sports Training Management from Faculty of Human Motricity at Technical University of Lisbon. He has a graduation (5 years) in Military Sciences from the Portuguese Military Academy. Currently, he is the director of the Department of Air Transport and Airports Management, Director of the Bachelor's degree in Aeronautical Management. He teaches courses on crisis management, strategic and leadership, leadership and ethics, strategic marketing, international negotiations, human resource management, development and vocational training and organizational behavior. He has taught and coordinated several intensive leadership courses (internal regime for 5 days) for young university students, entrepreneurs, bankers, and firefighters. Currently, he is a researcher of a research project on Stressense funded by FCT, which was awarded the scientific prize. He is a regular reviewer for many International journals.

Keynote Speakers



José Borges is a mechanical engineer specialising in systems, automation, control and robotics. He has a PhD from Instituto Superior Técnico in nonlinear system modelling. José worked as a professor and researcher at Instituto Superior Técnico and at the Delft Centre for Systems and Control in the Netherlands. He has specialised education in Cyber Security from the Massachusetts Institute of Technology, Management from the Lisbon School of Economics – ISEG, and Management and Innovation, Entrepreneurship and Technologies by COTEC Portugal, FLAD and the University Institute of Lisbon – ISCTE. José holds a teaching and research position with the Portuguese Military Academy, where he has been the Executive Director of the Military Academy Research Centre – CINAMIL, the Scientific Coordinator of the Military Mechanical Engineering courses and Director of the Mechanical Engineering Laboratory. He is also Deputy President of the AFCEA Portuguese chapter. His current R&D projects, funded by Horizon Europe and European Defence Fund programmes, include cyber defence, cybersecurity, artificial intelligence, and command and control systems applications.



Carlos Maio has more than 17 years of experience in Human Resources Consulting and Business Management, during this time he has focused his skills on the Aerospace and Defence sectors and more recently, on Maritime and Energy industries. Since 2014, Carlos has been the Executive Manager and founder of QSR, a strategy consulting company developing high-end solutions within human capital, specialising in industries with high technological intensity. QSR was granted the leading role of the EACP (European Aerospace Cluster Partnership) Skills Working Group whose main objective is to integrate the best practices of Human Capital sciences in the aerospace SME's, enhancing the capacity of the sector to integrate disruptive and high productivity technologies, products and processes. Carlos has also lead the Skills WG of the Portuguese Aerospace Cluster and Portuguese Renewable Energy Cluster. He has been a

member of Pact for Skills for Aerospace and Energy involved in various European R&D projects for Skills in Aerospace and Maritime. Recently, Carlos has launched a QSR Spin Off, which will aim to use ML and AI to boost effectiveness and efficiency in Skills Management. This platform will be useful for Public Entities, clusters, training entities, companies and individuals, giving them information and knowledge about the tendencies of demand and offer of competencies in the market.

Mini Track Chairs



Lori D. Coombs, MBA, MSE is an Assoc Prof at the Univ of Arizona Global Campus. Her career began with former US Vice Pres Candidate & Senator Joe Lieberman. She was appointed Delegate by Joe & former US Vice Pres Al Gore in 2000. She is CEO of WWCM, & Director of WWCM Academy, a nonprofit. She supports teams at NASA & C6ISR DoD programs. She is pursuing a D.Sc. in Cybersecurity at Marymount Univ. Her work on, “AI Risks in Higher Ed,” is published in the EJEL. Research: Cyberpsychology, Geology, Astronomy, Heliophysics, Space Policy, Intl Space Law, Title 51USC.



Dean Cristol, Ph.D., associate professor, Department of Teaching & Learning, The Ohio State University, Columbus, OH focuses on educational technology professional development within marginalized educational settings, aiming to equip both students and teachers with culturally responsive skills for technology-driven learning environments. Engages in research initiatives funded by international, national, state, and private foundation grants. Contributes extensively to academic discourse through publications in numerous journals, authoring books and chapters, and presenting findings at international, national, and state conferences. He serves as an Associate Editor for the Theory Into Practice journal and is Vice President for the International Association for Mobile Learning.



Nick Giester, MBA, more than 20 years of experience in public and private sector industries of IT, specializing in delivering technological solutions to business partners focused on the automation and improvement of vital business operations, as well as adeptly navigating organizational culture. He is highly skilled in evaluating the compatibility of existing infrastructure and software with fundamental business services, offering strategic guidance on investing in technologies like artificial intelligence or deciding on divestitures to meet business objectives. He excels at building and sustaining critical relationships, enabling him to manage crises efficiently, troubleshoot issues, and broker solutions effectively.



Belinda G. Gimbert, Ph.D., associate professor, Educational Administration, Department of Educational Studies, The Ohio State University, Columbus, OH. Her research addresses a broad array of human capital policies that impact talent management in low performing K-12 school systems and influence the composition, distribution, and quality of educators in the workforce. Gimbert teaches courses related to human resource administration, introduction to educational administration, and K-12 instructional supervision focusing on using AI and mobile learning technologies. She also directs two national projects sponsored by the U.S. Department of Education’s Office of English Language Acquisition.



Dr. Mitt Nowshade Kabir is an adjunct professor of Digital Transformation at Ecole de Management Léonard De Vinci. He is a serial entrepreneur, knowledge evangelist, business accelerator, and an investor. Dr. Kabir has a master’s degree in computer science, an MBA, a Ph.D. in Information Technology, and a DBA in Management. His current interests include AI, innovation, entrepreneurship, and strategic management.



Dustin Miller, Ph.D., clinical assistant professor, Educational Administration, Department of Educational Studies, The Ohio State University, Columbus, OH. His research interests focus on principal professional learning, leading in times of crises, and creating supportive LGBTQ+ environments for school leaders and teachers. He teaches courses on leadership, professional learning, and human resource management. Miller spent 20 years in k-12 as a high school principal, middle school principal, and director of secondary education. He currently serves as the plenum representative for the University Council for Educational Administration. He also served as president of the Ohio Association of Secondary School Administrators.



Raeal Moore, Ph.D., Executive Director of Evaluation Data Solutions, LLC. She specializes in providing comprehensive, high-quality research, evaluation, and assessment services to deliver reliable and accurate information about the implementation and outcomes of programs and projects. She uses mixed methods approaches to answer programmatic questions. She understands that a credible and comprehensive evaluation is critically important to provide program decision-makers with timely, evaluation results. With 20 years' experience, Raeal spends time strengthening the evaluation capacity and practice of organizations. Moore earned an M.A. and Ph.D. in Quantitative Research, Evaluation, and Measurement at Ohio State University.

ICAIR Conference Committee

ICAIR is fortunate to have a significant number of international experts in the field willing to review papers. Care is taken to ensure that a fully double-blind peer review process is followed.

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