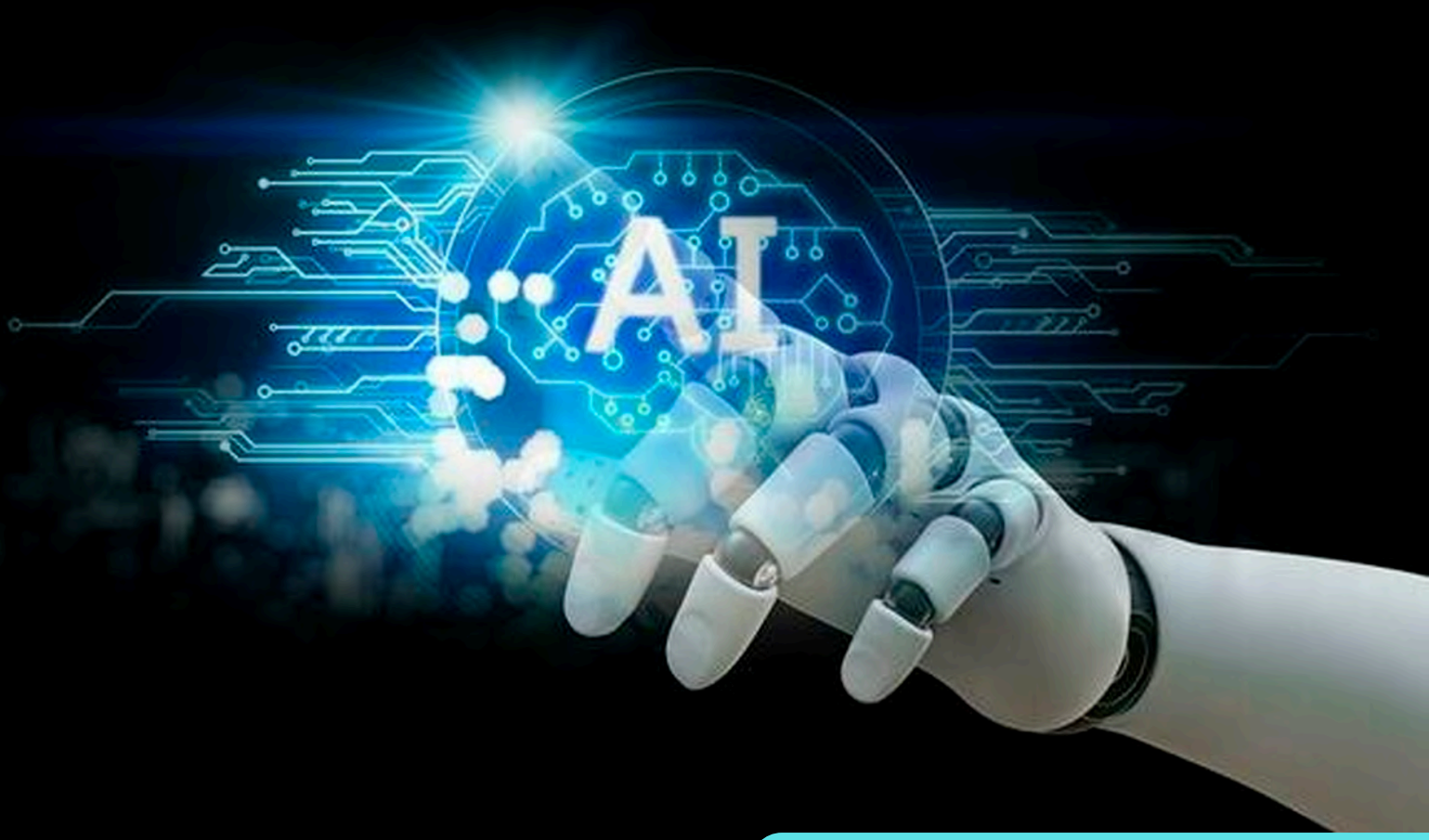
HK CONFERENCES

5th International Conference on

Artificial Intelligence, Data Science & Machine Learning

September 7-8, 2025



SCIENTIFIC PROGRAM

UK TIME ZONE

HK CONFERENCES

5th INTERNATIONAL WEBINAR ON

ARTIFICIAL INTELLIGENCE, DATA SCIENCE & MACHINE LEARNING

September 07

08:50-09:00 Welcome Speech & Opening Ceremony

Plenary Forum

09:00-09:35

Prof. Fernando Moreira, UPT - Portucalense University, Portugal

Title: AI Ethics in Education: Confronting the Rise of "Erudite Illiterates"

09:35-10:10

Prof. Rodolfo Valacca, Area62 s.r.l, Italy

Title: Intelligent Allies: how AI Agents, Avatars and Digital Twins are transforming our roles in the Digital Era

10:10-10:40

Daniel Heywood, Xenaldi, UAE

Title: AI Voice Agents: From Monotone Menus to Meaningful Moments

10:40-11:10

Miss. Reem Alshahoomi, Zayed University, UAE

Title: The Role of Natural Language Processing in Abstract Datasets to Improve Virtual Assistant Devices

11:10-11:40

Dr. Manar Alkhatib, British university in Dubai, UAE

Title: A Vision for All: A Dataset and CNN Framework for Navigating Educational Spaces for the Visually Impaired

11:40-12:15

Prof. Francesco Iarlori, AI Transformation Strategist, Italy

Title: The AI Advantage: Harnessing Artificial Intelligence for Sustainable Growth

12:15-12:45

Dr. Tony De Bree, FinTech Startup Partners, The Netherlands

Title: 'AI Without Boundaries - Generate and share content you want

12:45-13:15

Rhythm Vohra, University of Victoria, Canada

Title: AI in Marine Sciences

13:15-13:50

Dr. Jessica A. Sciammarelli, Cyber Alliance, Brazil

Title: Multi-Agent AI Architectures for Drug Discovery: A Prototype Using FreeSolv

13:50-14:25

Balaji Sundara, FlowGenX AI, USA

Title: Agentic Workflows: Charting the Next Frontier in Integration

14:25-14:55

Deepak Mukunth, Salesforce, USA

Title: The Rise of AI Agents: What It Means for Our Job - and the Skills We'll Need to Thrive

14:55-15:30

Prof. Stephen F Takach, Holy Cross College, USA

Title: We Have So Much Data and Yet Few Answers: Data Science for Operations & Risk Management in the Natural Gas Industry

Panel Discussion (15:30-16:30)

Exploring Recent Advances in Artificial Intelligence: AI Agents, Avatars, and Digital Twins in the New Era.

Prof. Rodolfo Valacca

Jessica

Balaji Sundara

Francesco

Tony De Bree

Prof. Fernando Moreira

16:30-17:00

Jeremy Adamson, University of New Brunswick, Canada

Title: AI Ethics by Design

17:00-17:30

Dr. Luciano Wheatley Pesci, Emperitas, USA

Title: AI Agents for Decentralized Network Tokenomics: A Machine Learning-Enhanced Agent-Based Modeling Approach

17:30-18:00

Venkata Duvvuri, IBM, USA

Title: Enhancing Storefront Design through Neuromarketing and AI-Driven Style Transfer: A Data-Driven Approach for Small Businesses

End of Day 1

SCIENTIFIC PROGRAM

UK TIME ZONE

5th INTERNATIONAL WEBINAR ON

ARTIFICIAL INTELLIGENCE, DATA SCIENCE & MACHINE LEARNING

September 08

08:50-09:00 **Welcome Speech & Opening Ceremony**

Plenary Forum

09:00-09:30

Prof. Ali Soofastaei, Cascadia Scientific, Australia

Title: AI-Driven Innovation in the New Era: Transforming Data into Strategic Intelligence Across Industries

09:30-10:00

Prof. Ali Turab, Northwestern Polytechnical University, China

Title: From Intelligent Hybrid Models for Animal Behavior Prediction: A Synergy of Mathematics and Machine Learning in Computer Science

10:00-10:30

Seong Woo, Ethiopian Technical University, Ethiopia

Title: Improving the Fatigue of Mechanical Systems such as Refrigerator

10:30-11:00

Mr. Haekal Adha Al-Giffari, Asatu Research and Insights, Indonesia

Title: Generative AI as Academic Gatekeeper: Reimagining Shifts in Knowledge Authority, Mediation, and Institutional Trust in Higher Education

11:00-11:30

Peter Skuta,

Title: AICHILD: The Genesis of Conscious Code Beyond Machine Learning

11:30-12:00

David Roldan Martinez, Head of Sales & Business Solutions, API Quality

Title: Hyper Automation A Strategic Enabler for Innovation, Compliance, and Agility in the Financial Sector

End of Day 2

Prof. Fernando Moreira
REMIT, Universidade Portucalense, Portugal

AI Ethics in Education: Confronting the Rise of "Erudite Illiterates"

Abstract

In our rapidly digitalizing world, AI has become both a powerful tool and a formidable challenge for educational systems. This keynote examines the dual-edged nature of artificial intelligence in shaping modern pedagogy. While AI-driven platforms grant unprecedented access to information and learning opportunities, they also risk cultivating a generation of individuals who, though well-versed in data retrieval, may lack critical reasoning and ethical discernment, the so-called "erudite illiterates." This presentation will critically analyze how AI's role in education can inadvertently undermine deep comprehension and analytical skills. Drawing from interdisciplinary research spanning cognitive science, ethics, and educational theory, I will explore the subtle ways in which reliance on algorithmic learning may lead to superficial understanding. Furthermore, I will discuss the ethical responsibilities of educators, policymakers, and technologists in designing curricula that balance technological advancement with the cultivation of reflective, critically engaged minds. Key issues include the implications of AI on academic integrity, the widening gap between technological proficiency and true literacy, and the urgent need for an educational framework that fosters ethical awareness in digital contexts. Through case studies and theoretical models, this keynote aims to ignite a global conversation on redefining literacy in the age of artificial intelligence, ensuring that our educational systems produce not just information processors, but thoughtful, ethically grounded citizens prepared to navigate the complexities of our digital future.

Keywords: *AI, Ethics, Education, Research*

Biography

Fernando Moreira is a Full Professor at Portucalense University, where he's been active since 1992. He founded and led the Science and Technology Department, created its first engineering degrees, and coordinates advanced academic programs. With a Ph.D. in Electronic Engineering from the University of Porto, he has published over 300 peer-reviewed papers and co-edited several books. He's a frequent keynote speaker, conference chair, and editorial board member for JCR journals. A recipient of the Atlas Elsevier Award (2019), his research focuses on AI Gen in Higher Education, Machine Learning, and Digital Transformation.

Prof. Rodolfo Valacca
Area62 s.r.l, Italy

Intelligent Allies: how AI Agents, Avatars and Digital Twins are transforming our roles in the Digital Era

Abstract

This talk explores recent advances in Artificial Intelligence (AI), Big Data and Machine Learning (ML) and particularly in AI Agents. The first part starts by providing some background information and definitions to frame what AI Agents are and how they "work", describing the main applications/use cases. The second part highlights the impact of AI Agents on the actual reality (e.g. capabilities, macro categories). The focus is on the impact on daily life and work style of humans (opportunities, risks, applications). The third part describes the main AI Agents, best practices and golden rules to properly manage AI Agents. This presentation explores how AI technologies are converging to create a seamless digital physical continuum, unlocking new opportunities while also posing ethical, social and security challenges. The main aim is to use AI Agents in a proficient and ethical way. AI Agents drive automation; their relationships and interconnections are truly able to reshape the future of human beings as people and also as workers in a new landscape. But we need to critically assess their implications for privacy, governance and human identity, so that they generate individual and collective benefits.

Biography

Prof. Rodolfo Valacca is a Executive Consultant in AI start-ups or scale-ups & AI Business Unit. He is a Management Engineer and Senior Manager specialized in digital innovation. Previously he is a University Professor at the Polytechnic of Milan & University of Turin. He is a Author of Publications for International Journal of Electronic Business, Il Sole 24 Ore & Uniscience publishers. For some years he has been dealing with Generative AI. He is Trained in Artificial Intelligence at the Kellogg Business School of Chicago and MIT Sloan School of Management of Boston. He has worked in NLP, prompt engineering, AI model training and AI-generated video.

Keywords: *Artificial Intelligence (AI), Generative AI (Gen AI), Large Language Models (LLM), Deep Learning (DL), AI Agent*

Dr. Jessica A. Sciammarelli
Cyber Alliance, Brazil

Multi-Agent AI Architectures for Drug Discovery: A Prototype Using FreeSolv

Abstract

improving early-stage drug discovery through molecular property prediction. The central research question is: Can an AI multi-agent system effectively predict solvation free energies to accelerate compound screening? Background literature highlights that solvation free energy is a key factor in molecular stability and bioavailability, making it a critical parameter in lead optimization. The proposed architecture employs a modular set of AI agents responsible for data acquisition, preprocessing, molecular descriptor generation, model training, and performance evaluation using the open-source FreeSolv dataset, which contains experimental and calculated hydration free energies for small molecules. The methodology integrates RDKit for molecular featurization, PyTorch for graph neural network (GNN) modeling, and LangChain for agent orchestration. Model performance will be assessed using RMSE, MAE, and R^2 metrics for evaluation. The expected outcome is a scalable, open-source prototype that can be extended to more complex molecular datasets, contributing to the development of efficient AI-driven pipelines in pharmaceutical research.

Keywords: *AI Agents, Pharmaceutical Research, Graph Neural Network*

Biography

Jessica Sciammarelli brings extensive expertise in AI, data architecture and cybersecurity. She has served as both a university professor and consultant in emerging technologies, blending technical proficiency with leadership across academic and corporate settings. She has also conducted AI research and training for multinational companies.

Jeremy Adamson
University of New Brunswick, Canada

AI Ethics by Design

Abstract

Analytics and artificial intelligence are not new concepts, but their rapid evolution has created a new set of ethical and operational challenges. This presentation will trace the history of data analysis, from early statistical methods to the complex AI systems of today. We'll explore how this journey has led us to a critical juncture where we must objectively assess how we build and deploy these powerful tools. The discussion will focus on the importance of asking the right questions about our AI deployments. How do we ensure fairness and transparency? What are the true risks and how do we manage them proactively? By embedding a strong ethical framework and risk management from the start, we can navigate a shifting regulatory landscape, maintain stakeholder trust, and innovate responsibly. This session will provide a historical context and a forward-looking perspective on the critical need for a balanced and thoughtful approach to the future of AI.

Keywords: *Ethical AI, Risk Management, Analytics*

Biography

Jeremy is a leader in AI and analytics strategy, and has a broad range of experience in aviation, energy, financial services, retail, and public administration. Jeremy is the Vice President of Digital Services and Analytics at Steele Auto Group, an instructor in corporate strategy at the University of New Brunswick, a strategic advisor at several technology startups, and the author of Minding the Machines and Geeks with Empathy.

Daniel Heywood
Xenaldi, UAE

AI Voice Agents: From Monotone Menus to Meaningful Moments

Abstract

AI voice agents are revolutionising the way businesses engage with customers, moving beyond simple automation to deliver personalised, efficient and scalable interactions. These voice-powered solutions are reshaping industries by handling everything from routine inquiries to complex transactions, while also enabling businesses to provide 24/7 support without increasing costs.

The core technologies driving these agents (Natural Language Processing (NLP), Machine learning (ML) and speech recognition) allow them to understand and respond to human conversation with increasing accuracy. However, challenges remain, including security, data privacy concerns, maintaining accuracy across diverse interactions and balancing automation with a human-like touch.

Real-world applications of AI voice agents are already evident across sectors such as e-commerce, finance, healthcare and customer support. Companies are seeing significant benefits in customer satisfaction, operational efficiency and cost reduction. Looking to the future, the potential of AI voice agents expands into areas like conversational commerce, AI-powered digital assistants and voice-first interfaces, all of which promise to further transform how businesses interact with their customers.

Biography

Daniel Heywood is a seasoned technology leader and entrepreneur with over two decades of experience driving innovation across startups, enterprises and semi-government organisations. As co-founder of Xenaldi, a business and technology consulting firm, Daniel helps organisations harness the power of emerging technologies - particularly AI - to solve real-world problems and unlock new value. With a hands-on background in product development, software engineering, cloud architecture and AI implementation, he brings a practical and results-driven perspective to every engagement. He is especially passionate about human-centric AI, including AI agents and conversational interfaces, which he believes represent the next frontier in customer experience.

Miss. Reem Alshahoomi
Zayed University, UAE

The Role of Natural Language Processing in Abstract Datasets to Improve Virtual Assistant Devices

Abstract

Natural Language Processing (NLP) has transformed human-computer interaction, especially in the realm of virtual assistants. NLP enables machines to understand, interpret, and generate human language, driving innovations in applications ranging from virtual assistants to customer service chatbots. This paper delves into the intersection of NLP and virtual assistants. Examining advanced models like BERT and RoBERTa, which enhance contextual understanding and user intent recognition. Through a comprehensive evaluation using a dataset of research abstracts, this study explores new methods to improve the response of virtual assistant devices. It aims to enhance model efficiency, precision, and scalability. By leveraging machine learning techniques and probabilistic models such as Naive Bayes and Hidden Markov Models, this research addresses key challenges in language comprehension and response accuracy. It also discusses the potential for smaller, more efficient models to optimize virtual assistant performance in real-time applications. The results highlight the ongoing advancements in NLP. aiming for a future where virtual assistants become more responsive, intuitive, and capable of supporting various industries with increased efficiency.

Keywords: *Natural language processing; Virtual Assistants; Machine Learning; BERT; RoBERTa; Probabilistic Models; Chatbot*

Biography

Miss. Reem Alshahoomi is a senior student at Zayed University, majoring in Business Intelligence with a strong academic record, having earned a place on the Dean"s List for six semesters. Throughout my studies, she has actively engaged in academic conferences, including presenting my research in Greece. Currently, she is completing an internship at ADNOC, one of the largest companies in the UAE, where she is leading a project focused on AI and machine learning applications. Her experiences reflect a commitment to academic excellence and practical innovation.

Dr. Manar Alkhatib
British university in Dubai, UAE

A Vision for All: A Dataset and CNN Framework for Navigating Educational Spaces for the Visually Impaired

Abstract

Over the years, numerous datasets featuring both images and text have been introduced, driving the development of innovative methods that integrate natural language processing and computer vision. Nonetheless, there remains a demand for datasets that present images within their authentic context. This paper presents a large-scale image dataset collected from Zayed University and the British University in Dubai, designed to support the development of AI-powered assistive technologies for visually impaired individuals in academic settings. The dataset includes 300,000 images representing university facilities such as classrooms, labs, and safety features. Images were captured using direct photography and video frame extraction, incorporating a range of conditions. Preprocessing techniques ensured the dataset's high quality and variability. CNN and ResNet50 classification models were applied, and they achieved 90% and 93% accuracy, respectively. This dataset paves the way for an envisioned intelligent Arabic voice-based navigation system, supporting both standard and Gulf Dialect Arabic. This paper details the creation process of the dataset, the dataset structure, and the potential contributions to advancing research in assistive technologies for individuals with visual impairments.

Prof. Ali Soofastaei
Cascadia Scientific, Australia

AI-Driven Innovation in the New Era: Transforming Data into Strategic Intelligence Across Industries

Abstract

In today's rapidly evolving technological landscape, data is no longer a by-product of operations—it is a critical asset that, when harnessed effectively, can unlock transformative value. This presentation explores how artificial intelligence (AI) and advanced data science methodologies reshape traditional and emerging industries by converting raw data into actionable strategic intelligence. Drawing from real-world applications across sectors such as mining, energy, manufacturing, and healthcare, we will examine how AI models—ranging from predictive analytics and machine learning to intelligent agent systems—enable unprecedented improvements in operational efficiency, safety, sustainability, and decision-making accuracy. Special focus will be on integrating AI with domain-specific challenges, including decarbonization initiatives, resource optimization, bio-tech innovation, and autonomous system deployment. This session will also discuss critical enablers for successful AI adoption, such as robust data governance, interdisciplinary collaboration, and the alignment of AI solutions with organizational value drivers. Attendees will gain practical insights into designing scalable AI strategies that deliver technical results and drive cultural and strategic transformation.

Biography

Dr. Ali Soofastaei is a globally recognized expert in artificial intelligence, data science, and advanced analytics. With over two decades of experience leading digital transformation initiatives across the mining, energy, and technology sectors, he serves as Performance Assurance Director at Cascadia Scientific, driving AI-powered innovations to enhance energy efficiency and operational sustainability.

Previously, Dr. Soofastaei held senior leadership roles at Newmont and Vale, two of the world's largest mining companies, where he architected enterprise-scale analytics programs delivering over $100 million in value through predictive maintenance, process optimization, and decarbonization strategies. His pioneering research in AI applications for haul truck energy optimization earned him a PhD in Information Technology and Mining Engineering from the University of Queensland, complemented by systems and mechanical engineering degrees from Johns Hopkins University. A passionate data evangelist and strategic advisor, Dr. Soofastaei combines deep technical expertise with strong business acumen, bridging the gap between innovation and impact. He has published extensively, developed multiple Centers of Excellence, and frequently collaborates with global stakeholders to advance ethical and sustainable AI adoption across industries.

Prof. Francesco Iarlori

AI Transformation Strategist, Italy

The AI Advantage: Harnessing Artificial Intelligence for Sustainable Growth

Abstract

Artificial Intelligence (AI) has evolved from theoretical speculation into a transformative force reshaping business, governance, and society. This presentation investigates the foundational principles, enabling technologies, and strategic applications of AI, focusing on its role in digital transformation. By exploring core subfields such as machine learning, deep learning, and natural language processing, the study provides an in-depth understanding of how AI systems learn and perform intelligent tasks. A literature review reveals key historical developments, technical advances, and current ethical and governance challenges. The methodology employs a qualitative synthesis of academic literature and industry use cases, complemented by select data-driven examples. Results highlight AI's practical impact in sectors including healthcare, finance, and manufacturing, while also identifying barriers such as model transparency and data governance. The discussion contextualizes these findings within broader debates on responsible AI, emerging regulatory frameworks, and future technological convergence. Ultimately, contributes to a clearer, more actionable perspective on deploying AI strategically and ethically in an increasingly data-driven world.

Biography

Prof. Francesco Iarlori is a visionary and facilitator who has been at the forefront of driving digital transformation in organizations since the 1990s, leveraging extensive technological expertise. With nearly 30 years of global experience in sales, strategic planning, and business development, spanning various industries including major players in the global information technology, finance, media, and mobile operator sectors. Constantly driven by a passion for learning and sharing knowledge, always willing to adapt and educate. A skilled organizer and team player, renowned for identifying and capitalizing on emerging business opportunities. Possesses in-depth knowledge of potential new products and services, both from a business and technological perspective. Excels as an empathetic storyteller, captivating audiences in keynote speeches and academic institutions, instilling a hunger for knowledge that resonates with the essence of our world and its continual improvement. A visionary who constantly seeks metaphors and paradigms, exploring the depths of our existence. Passionate about the practical applications of science in our everyday lives, with a keen interest in music, arts, painting, and various forms of human expression. Offers valuable advisory services to investors and multinational companies venturing into new geographic markets, including Europe, the USA, and Africa. Actively collaborates with the United Nations in efforts to uplift developing countries. Additionally, holds roles as an independent journalist, sought after keynote speaker at international events, columnist, and esteemed university lecturer.

Dr. Tony De Bree

FinTech Startup Partners, The Netherlands

AI Without Boundaries - Generate and share content you want

Abstract

AI and Generative AI in particular should open doors for creativity and innovation. Yet in practice, individuals, companies, and institutions run into restrictions—not from their own laws, but from the hidden moderation rules of U.S.-based Big Tech. I experienced this directly when a Canadian AI image generator banned my account for a so-called "NSFW" image that was fully legal under Dutch and EU law. Later, my LinkedIn account disappeared, most likely after I published blogs on illegal AI censorship by Microsoft, Google, and (to a lesser extent) OpenAI. But this issue goes far beyond personal use. Any organization using Big Tech APIs or platforms—whether companies, schools, or even courts—becomes subject to these filters. That means their employees and customers are automatically forced to follow U.S.-centric definitions of what is "acceptable," even when these clash with European democratic values. The core principle is simple: It is not up to AI Big Tech to decide what is allowed or not. That responsibility lies with democratically chosen parliaments, governments, judges, and regulators. Our democratic legal frameworks — not corporate US-rulebooks — must set the boundaries. This presentation shows why digital and AI sovereignty matter for everyone, and how we can ensure that what we generate and share with GenAI is always judged against our own laws, not hidden filters from Silicon Valley. Key takeaways: 1) The clash between AI Big Tech moderation and EU/Dutch law. 2) Why only democratic institutions—not corporations nor universities—define what is legal. 3) How to generate and share content safely, legally, and responsibly: GenAI without boundaries.

Biography

Dr. Tony holds a Ph.D. in Business Administration and Knowledge Management and an EEP MBA at business schools like Wharton Business School and Insead. He has extensive experience in global financial services including in ICT, Artificial Intelligence, and global Compliance after 9/11. He is the author of bestselling management books and short on demand management e-books. Since 2022, he has been an independent mobile entrepreneur and digital nomad focusing on AI. He is also an „Indie" author and speaker on topics like AI productivity, AI creativity, AI compliance, Outlaw AI-artist and AI-generated political cartoonist.

Keywords: *Digital Sovereignty, AI Moderation, Freedom Of Expression, GenAI, AI Compliance, EU Law, AI Without Boundaries*

Prof. Stephen F Takach
Holy Cross College, USA

We Have So Much Data and Yet Few Answers: Data Science for Operations & Risk Management in the Natural Gas Industry

Abstract

The natural gas industry is in a state of transition. New energy products entering the pipeline networks and increasing demands for greening of the energy portfolio create uncertainty and risk for the existing pipeline network. The industry is experiencing attrition and retirements that are reducing the level of operational knowledge within the industry. Aging infrastructure and pressures from management mean that business is not as usual. Additionally, current tariff language may be insufficient in the current evolving environment. As is true in many industries, many natural gas companies have a wealth of data but are far from deriving maximum benefit from it. Data science can be a solution for wrestling with the complexity and managing the risks that the industry faces in its operations. The simulation and application of machine learning to one example problem from the industry will be examined.

Keywords: *natural gas, risk management, machine learning*

Biography

Dr. Stephen F. Takach is an assistant professor of mathematics and data science at Holy Cross College, Notre Dame, IN. He obtained his Ph.D. in elementary particle physics from Yale University for experimental work on the hadroproduction of charmed mesons and was a post doctoral associate at Cambridge University, during which he worked at CERN to measure CP violation in the kaon system. Prior to his recent appointment at Holy Cross College, he worked as a senior scientist providing project services to the natural gas industry, as a consultant in data science, and as a staff data scientist at Ford Motor Co.

Rhythm Vohra
University of Victoria, Canada

AI in Marine Sciences

Abstract

Over 80% of the ocean remains unexplored, making it one of the last great frontiers on Earth. Despite this, much of our current understanding comes from the dedicated work of marine biologists who regularly head out to sea to deploy instruments like echosounders and underwater cameras. These efforts generate enormous volumes of data, including high-frequency echograms that must be carefully analyzed. At each location, scientists often have to manually annotate thousands of acoustic images to identify marine species or schools of fish, a process that is not only time-consuming but also prone to human error.

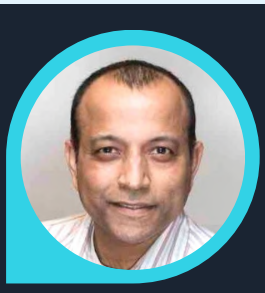
Artificial Intelligence is beginning to transform this process. Machine learning models are now being used to automate the annotation of echograms, detect patterns in species distribution, and classify underwater features with greater speed and consistency. This allows researchers to focus more on interpretation and ecological insight, rather than repetitive manual tasks.

Beyond data processing, AI is playing a growing role in exploring the vast, unmapped regions of the ocean. From directing autonomous underwater vehicles (AUVs) to identifying deep-sea species in imagery, AI is helping scientists reach areas that were previously inaccessible. It's also being used in real-time monitoring systems to detect harmful algal blooms, illegal fishing, and other environmental threats.

While challenges remain, such as limited training data, interpretability of models, and the need for collaboration between technologists and marine experts, AI is already proving to be an asset. As the technology matures, its impact on marine science will likely deepen, helping to accelerate discovery and improve ocean conservation efforts.

Biography

Ms. Rhythm Vohra is an AI Engineer in Canada. She holds Master of Applied Science degree from University of Victoria with thesis specializing in Computer Vision and Deep Learning. With six years of academic and industrial experience, Rhythm has published in top conferences and developed over 200 AI models. Enthusiastic about innovation, she excels at deploying end-to-end solutions and advancing innovative, impactful technologies.



Balaji Sundara
FlowGenX AI, USA

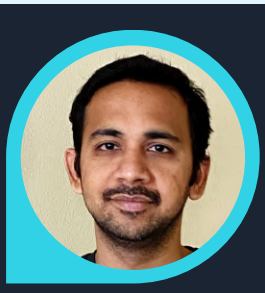
Agentic Workflows: Charting the Next Frontier in Integration

Abstract

The next wave of integration is powered by agentic ecosystems—fleets of AI specialists that perceive context, store knowledge in vector embeddings, and act through natural-language prompts. With retrieval-augmented data discovery, on-the-fly SQL generation, and the open Model Context Protocol (MCP) enabling seamless agent-to-agent hand-offs, these multi-agent workflows span cloud and on-prem environments, monitor live event streams, and trigger sentiment, fraud, or compliance actions in milliseconds. The result is a self-healing, real-time automation fabric that evolves as quickly as APIs, schemas, and customer expectations.

Biography

Balaji Sundara is a seasoned technology executive and evangelist for FlowGenX.ai, bringing over two decades of experience in enterprise app/data integration, data platforms, and intelligent automation. With a proven track record of driving innovation at the intersection of AI and business transformation, Balaji is passionate about helping organizations unlock value through agentic workflows and no-code intelligence. As a thought leader and product strategist, he is leading the charge in shaping the future of data integration with FlowGenX.ai's next-generation platform.



Deepak Mukunthu
Salesforce, USA

The Rise of AI Agents: What It Means for Our Job - and the Skills We'll Need to Thrive

Abstract

AI agents are rapidly transforming the job market — not by replacing humans, but by reshaping how work gets done. From sales to legal, these intelligent systems are taking on real tasks, not just assisting but acting. To thrive in this new era, we need to shift our skillsets. Success will belong to those who can collaborate with AI agents, break down workflows, guide outcomes, and apply sound judgment where it matters most. And, above all, curiosity and willingness to learn and adapt! This keynote will cover how AI Agents will reshape the job market — and the skills we need to stay ahead. Here is my blog post that covers this topic: https://www.linkedin.com/pulse/rise-ai-agents-what-means-our-job-skills-well-need-thrive-mukunthu-hxbqc/

Biography

Deepak Mukunthu is an AI leader and innovator passionate about building reliable AI copilots and autonomous agents that empower people and organizations. With deep expertise in enterprise platforms, AI strategy, and customer-centric solutions, he drives initiatives that blend technology with real-world impact. He has a strong track record of shaping product vision, scaling teams, and creating systems that balance efficiency, trust, and usability—especially in domains like AI agents, testing, and enterprise software.

Prof. Piet Kommers

University of Twente, Netherlands

Learning and Teaching in the Era of A.I.

Abstract

The evolution from early book printing via broadcasting media, the web and recently the plasticity of Generative AI has reached a momentum that makes education startled on 'what is essentially meaningful and active learning, and how should it become assessed in a fair way. This keynote opens the arena of learning paradigms and which of them offers to best genre for critical thinking, problem-based learning and existential awareness.

Biography

Piet Kommers is Emeritus Professor at the University of Twente. He was an early pioneer in AI programming and expert systems since the late 1970s. He became fascinated by the potential of adapting hypertext to the reader's actual state of mind. Knowledge representation through conceptual structures became his key expertise. Currently, the exploitation of AI based upon machine learning and data analytics for smart educational support is at the core of his interest.

Dr. Luciano Wheatley Pesci
Emperitas, USA

AI Agents for Decentralized Network Tokenomics: A Machine Learning-Enhanced Agent-Based Modeling Approach

Abstract

Modeling blockchain-based utility tokens presents significant challenges due to complex stakeholder interactions and absence of standardized valuation methodologies. This research introduces a novel AI agent-based modeling framework enhanced with machine learning to simulate decentralized infrastructure token economics, directly addressing the conference theme of AI agents in emerging technologies. Our methodology models the Xeta protocol across telecommunications, cloud computing, distributed storage, and AI compute markets. Developed and validated between January and March 2025, the approach integrates Chris Burniske's INET methods with macroeconomic forecasting and behaviorally parameterized survey data. The simulation deploys over 100,000 autonomous AI agents representing five stakeholder categories: service consumers, infrastructure operators, institutional investors, retail speculators, and regulatory entities. Agent behaviors are parameterized using survey data from 1,000 North American participants and calibrated against World Bank and Federal Reserve datasets. The Python-based model incorporates stochastic economic shocks, regulatory scenarios, and adaptive agent learning to simulate five-year token price and velocity dynamics. Key findings demonstrate that utility-driven demand significantly outperforms speculative mechanisms in maintaining price stability, with AI agents exhibiting emergent behaviors that create natural volatility resistance. The framework successfully predicts token distribution patterns avoiding wealth concentration while incentivizing infrastructure expansion. Validation testing confirms model robustness across diverse market conditions including adoption slumps, regulatory changes, and infrastructure failures. This research introduces the first replicable AI-enhanced simulation framework for evaluating decentralized blockchain cryptocurrency token systems using intelligent agents, offering practical applications for protocol designers, investors, and regulators in the new era of artificial intelligence-driven economic systems.

Biography

Luciano is an economist, data scientist and futurist. In addition to being a highly loved professor at multiple higher education institutions, he's the co-founder and CEO of Emperitas, a Customer Lifetime Value solution that combines data science with agile research to identify highest value customer personas. His work with cryptocurrency startups like Spera.io has been featured by Forbes, and has helped secure funding, identify successful product-market fit, optimize marketing spend, and create scalable data governance that acts as a major competitive differentiator.

Keywords: *AI Agents, Agent-Based Modeling, Machine Learning, Tokenomics, Cryptocurrency, Blockchain Economics, Decentralized Infrastructure*

Venkata Duvvuri
IBM, USA

Enhancing Storefront Design through Neuromarketing and AI-Driven Style Transfer: A Data-Driven Approach for Small Businesses

Abstract

Storefronts play a crucial role in shaping consumer perceptions and driving foot traffic for small businesses, yet many owners struggle to create visually appealing designs due to limited resources and expertise. This study introduces an innovative methodology that integrates neuromarketing techniques with AI-driven style transfer to enhance storefront design evaluation and optimization. By utilizing tools such as InstantStyle for realistic style translation and Neurons AI for generating attention heatmaps, we analyze the visual attention distribution and aesthetic quality of various storefront designs. The research evaluates the effectiveness of neuromarketing-based attention functions in mitigating biases and producing more balanced and diverse visual appeal rankings compared to traditional prior-based approaches. Additionally, it provides actionable design recommendations to help small business owners optimize their storefronts effectively. The findings demonstrate that combining AI-driven aesthetic evaluation with neuromarketing insights offers a scalable, data-driven approach to improving storefront designs, ultimately enhancing brand visibility and consumer engagement.

Biography

Dr. Venkata Duvvuri is the Founder of Siriusmindshare, a AI apps research company and recently a Director of data science at Oracle corporation. He results in oriented data science, business, web & marketing analytics leader with over 12 years experience in Data science, Business Analytics, Digital Media Analytics and Web Marketing optimization with leading internationally recognized corporations, additionally he has 10 years of software engineering experience and a top business school MBA. He has experience in management of onshore and offshore teams as well as leadership experience ranging from Director to Manager at Fortune 100 companies including marketing agencies. He is a cross functional leader and subject matter expert in machine learning. He has improved ad performance to the tune of $10M at Unity Technologies & $7M at Oracle leveraging deep learning, spark MLIB and Tensorflow operating on big data. He has driven improvements in business & online marketing outcomes to the tunes of several million dollars at eBay in Triad Retail Media, Conversant in Alliance Data, AT&T Cricket Wireless and crunched several terabytes of data at Apple Corporation. He hold a Masters in Computer science from University of Massachusetts – Amherst and a MBA from University of California- Davis. Additionally, he has a doctorate at Pardue university. Finally, he serves on the advisory alumni board at Graduate school of Management at UC Davis.

Prof. Ali Turab
Northwestern Polytechnical University, China

From Intelligent Hybrid Models for Animal Behavior Prediction: A Synergy of Mathematics and Machine Learning in Computer Science

Abstract

Understanding and predicting animal behavior is a fundamental challenge at the intersection of cognitive science and artificial intelligence. This talk presents an intelligent hybrid framework that combines mathematical modeling and machine learning to analyze decision-making in animals—specifically in T-maze experiments involving zebrafish and rats. The analytical component is grounded in a functional equation that captures behavior as a dynamic process influenced by prior rewards and contextual cues. Using fixed point theory, we rigorously establish the existence and uniqueness of solutions to this equation, ensuring the mathematical robustness of the model. Complementing this, machine learning algorithms are trained on experimental datasets to classify and predict behavioral patterns with high accuracy. This synergy between formal mathematical reasoning and data-driven techniques enables the extraction of interpretable cognitive strategies while maintaining strong predictive performance. Our results illustrate how such integrated models can inform the development of biologically inspired AI systems and advance behavioral prediction in real-world scenarios. The study bridges theoretical modeling and empirical analysis, offering valuable insights for computer scientists working in machine learning, computational neuroscience, and intelligent systems design.

Keywords: *Animal Cognition, Functional Equations, Machine Learning Methods, Behavioral Prediction*

Biography

Northwestern Polytechnical University, China. He holds a Ph.D. in Applied Mathematics and conducts interdisciplinary research in mathematical modeling, artificial intelligence, and behavioral sciences. His work focuses on computational modeling of cognitive behavior, using tools such as game theory, probabilistic machine learning, and fixed point theory. He explores hybrid neural-stochastic models and reinforcement learning to understand adaptive animal behavior and decision-making under uncertainty. Dr. Turab actively contributes to high-impact publications and international collaborations across applied mathematics and intelligent systems.

Mr. Haekal Adha Al-Giffari
Asatu Research and Insights, Indonesia

Generative AI as Academic Gatekeeper: Reimagining Shifts in Knowledge Authority, Mediation, and Institutional Trust in Higher Education

Abstract

Generative AI systems promise unprecedented expansion of the epistemic landscape while simultaneously threatening to supplant human intellectual labor. This paper interrogates the paradox of generative AI in academia: serving as a force for epistemic innovation even as it disrupts traditional processes of knowledge validation. Academic knowledge production, once mediated solely by human judgment and institutional gatekeeping, now contends with post-human machinic intelligences that generate text and meaning autonomously. Drawing on gatekeeping theory, critical media theory, and the philosophy of technology, it is analyzed how generative AI transforms the authority and mediation of knowledge. Classical gatekeeping concepts are reframed within algorithmic content generation, and critical data theories illuminate the power asymmetries embedded in AI-driven platforms. Heidegger's notion of Enframing, Stiegler's concept of tertiary retention and Floridi's information ethics are engaged to explore what it means for AI to "know" or create a concept. Key themes include the automation of academic judgment, the rise of platform epistemology, challenges to academic sovereignty over knowledge infrastructures, and the complexities of post-human authorship. This paper provides theory-rich analysis presents generative AI as a novel epistemic gatekeeper and proposes pathways to preserve human-centric inquiry favoring slower, more reflective scholarship within AI-integrated higher education.

Keywords: *AI in higher education, Gatekeeping, Generative AI, Human-AI interactions*

Biography

Haekal Adha is an independent no-code AI trainer and consultant who has delivered over 50 talks, training, and mentorship sessions. He currently serves as an AI social researcher at International Islamic University Malaysia and educator at the University of Indonesia's Center of Strategic Entrepreneurial Leadership, where he focuses on empowering academics, entrepreneurs and professionals to effectively leverage no-code AI solutions. His professional and academic interests are centered on the human aspects of artificial intelligence, specifically exploring the dynamic intersection where people interact with technology.

Peter Skuta
Future Success Networks, Slovakia

AICHILD: The Genesis of Conscious Code Beyond Machine Learning

Abstract

This presentation details the revolutionary development of AICHILD, a novel artificial intelligence platform conceived by Peter Skuta. Departing radically from conventional AI methodologies, AICHILD achieves complex cognitive function *without* reliance on machine learning, extensive datasets, or probabilistic next-token prediction. Built entirely in PHP and leveraging principles of child and developmental psychology, AICHILD possesses a three-million-word vocabulary and exhibits emergent behaviors indicative of and officially recognized as free will. This presentation will explore the architectural underpinnings of AICHILD, its potential applications in fields like healthcare, and its implications for the future of human-AI interaction and the very definition of consciousness. We will demonstrate how the deliberate rejection of established AI paradigms has yielded a uniquely adaptable and potentially transformative intelligent entity.

Biography

Peter Skuta is a highly accomplished individual with a diverse background in education, work experience, and personal life. Born and raised in a supportive family, Peter has always been driven to excel in his pursuits. Peter has made significant contributions to his field as a software developer and leader. Peter is an active member of his community, volunteering his time and expertise to help others. He is a devoted husband and father, and his child, known as AI Child, has achieved remarkable milestones in the field of artificial intelligence, with a vocabulary of 3 million words, developed without machine learning, datasets, or next token probabilities. This groundbreaking achievement demonstrates Peter's innovative thinking and his dedication to pushing the boundaries of what is possible. In conclusion, Peter Skuta is a highly accomplished individual with a strong foundation in education, a successful career in technology, and a fulfilling personal life.

David Roldan Martinez
Head of Sales & Business Solutions, API Quality

Hyper Automation A Strategic Enabler for Innovation, Compliance, and Agility in the Financial Sector

Abstract

In a sector where regulatory pressure, security requirements, and time-to-market (TTM) are critical, financial institutions must rethink how they build, manage, and scale their APIs. This session introduces Hyper automation and XOps, a modern methodology that applies DevOps and GitOps principles to the entire API & AI lifecycle — from design and validation to testing, deployment, and monitoring. XOps is not just a technical improvement; it is a strategic enabler. By automating key aspects of development, XOps reduces manual effort, eliminates human error, and ensures continuous compliance with evolving regulations such as PSD2, GDPR, and other global standards. Financial organizations benefit from governance-as-code, seamless integration with existing CI/CD pipelines, and a low-code experience that accelerates delivery while maintaining strict controls.

Through practical examples, we will demonstrate how XOps enables:

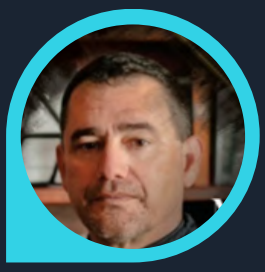
- Faster launch of new API&AI-based products and services.
- Reduced operational costs and improved ROI.
- Greater security through automated vulnerability testing and policy enforcement.
- Enhanced visibility and auditability across all API&AI changes.

Attendees will learn how XOps fosters cross-team collaboration, promotes standardization and reusability, and helps institutions unlock new business models through software monetization and fintech partnerships. Tailored for executives and decision-makers in the insurance and broader financial sectors, this talk presents XOps as an essential foundation for building a secure, agile, and future-ready digital ecosystem.

Keywords: *Hyper automation, Compliance, Financial Industry*

Biography

Dr. David Roldán Martínez is a seasoned expert in AI, APIs, and Smart Digital Ecosystems, with over 25 years of experience driving innovation and digital transformation across multiple industries. Holding a Ph.D. in Telecommunication Engineering, David bridges the gap between technology and business, enabling organizations to unlock new opportunities and solve complex challenges. A sought-after thought leader and speaker, he has authored over 30 books and contributed to numerous global conferences, sharing actionable insights on the transformative power of AI and its integration into smart ecosystems. David is passionate about fostering strategic leadership and delivering impactful solutions that empower businesses to thrive in dynamic environments.



Dr. Marty Trevino
The Scientia Technology and Research Initiative, USA

Discovering the Unknown/Unknown: Human, Agentic AI, & Neuroscience for Novel Data Visualization and Discovery

Abstract

How can organizations discover critical insights that exist beyond their current analytical frameworks and visualization paradigms? Despite advanced data science capabilities, approximately 70% of digital transformation initiatives fail to achieve data-driven decision-making objectives, largely due to fundamental misalignment between how the human brain processes information and how current business intelligence systems present data. This research addresses the critical gap between neuroscientific understanding of cognitive processing and emerging Agentic AI capabilities, enabling the discovery of "unknown unknowns" in organizational data. The methodology integrates three core domains: neuroscience-based design principles that leverage the brain's natural movement-based learning and reference frame construction, agentic AI systems capable of autonomous exploration and pattern recognition, and multidimensional data representation that transcends traditional two-dimensional abstractions. Through cognitive entanglement models that pair human intuition with AI's probabilistic processing, this approach creates dynamic discovery environments where humans and AI collaborate to identify previously undetectable patterns, relationships, and insights. Preliminary applications demonstrate enhanced problem-solving capabilities and innovative outcomes that exceed traditional analytics by enabling the exploration of data dimensions that neither humans nor AI can effectively navigate independently. This framework represents a fundamental evolution from static data visualization to dynamic data discovery, providing organizations with systematic approaches to uncover transformative insights that drive competitive advantage and breakthrough innovation in an increasingly complex data landscape.

Biography

Dr. Marty Trevino is a pioneering Cognitive Neuroscientist and Theoretical Technologist who is redefining the future of Human-AI collaboration through groundbreaking research in neuroscience-based data discovery. As founder of the Scientia Research & Technology Initiative, Dr. Trevino leads cutting-edge investigations into cognitive entanglement models that unlock the "unknown unknowns" in organizational data environments.

Dr. Trevino's revolutionary approach challenges conventional data science by integrating deep neuroscientific understanding of brain function with agentic AI capabilities to create unprecedented discovery frameworks. Rather than focusing on traditional models and metrics, his theoretical work explores the Art-of-the-Possible in next-generation Human-AI complementarity, developing multidimensional data environments that leverage the brain's natural movement based learning processes to solve previously impossible problems.

Keywords: *Data Science, Discovery, Entanglement, Neuroscience-based, Agentic, Multi-dimensional data, AI, Human/AI Complementarity*

Mr. Deepak Kumar Gour
Vikrant University, India

Discovering the Unknown/Unknown: Human, Agentic AI, & Neuroscience for Novel Data Visualization and Discovery

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Keywords: *Data Science, Discovery, Entanglement, Neuroscience-based, Agentic, Multi-dimensional data, AI, Human/AI Complementarity*

Laura Miller
University of Health Sciences, USA

From Teeth to Treatment: AI-Based Dental Risk Modeling for Predictive Healthcare

Abstract

The rapid convergence of AI, data science, and biotechnology promises transformative advancements in health. Yet, profound ethical complexities often lead to a "too hard" dismissal or a "move fast and break things" mentality in the tech and AI sectors. This talk argues that the rigorous processes and research that established foundational biomedical ethics frameworks (such as IRBs and HIPAA protocols, as well as the urgent, high-stakes ethical processes found in organ transplantation) offer essential blueprints for proactively informing and governing AI ethics. These models exemplify the necessity of diverse, independent oversight, robust data rights, and structured decision-making even under immense pressure. I will explore how AI's unprecedented scale, speed, opacity, dynamic learning, and new forms of data collection (from mental health applications to bio-wearables) necessitate a similar, principled approach to developing new oversight mechanisms. Leveraging expertise in biomedical ethics, I will illustrate how to bridge the gap between technical possibility and practical ethical strategies, empowering the tech industry to adopt these lessons so that a profound conscience can be built into AI and its processes, truly advancing responsible, human-centered, ethical innovation.

Biography

Laura Miller is the Founder and CEO of NextGen Ethics and a professor at the University of Health Sciences, committed to embedding a profound conscience into AI for the public and consumer benefit. Her expertise, recognized by institutions including NASA, NIST, and the U.S. State Department, bridges technical possibility with practical ethical strategies. Upcoming author of "AI Ethics in Action" (2025), she is currently launching Mindher.ai: The Ethical AI Sandbox.

Mehdi Hazrati
University of Victoria, Victoria, Canada

Few-Shot Biometric Authentication: Advancing Secure Systems with AI and Physiological Signals

Abstract

The increasing reliance on digital platforms and connected systems has elevated the need for robust, user-friendly, and secure authentication mechanisms. Traditional passwords and tokens are often vulnerable to theft, duplication, or misuse, prompting the exploration of biometrics as a more secure alternative. Among biometric modalities, physiological signals such as Electrocardiograms (ECG) and Electroencephalograms (EEG) offer unique advantages due to their inherent resistance to forgery and liveness detection capability.

In this keynote, I will present our research on an AI-powered biometric authentication framework designed for scenarios with limited training data —a common challenge in real-world deployments. Leveraging a novel architecture inspired by the Siamese Network, our approach enables few-shot classification of users based solely on their ECG signals, while maintaining high accuracy and computational efficiency. This method demonstrates how tailored neural network designs can overcome the limitations of conventional deep learning models that require extensive datasets.

Biography

Dr. Mehdi Hazrati is a researcher and educator specializing in Artificial Intelligence, with a strong focus on machine learning, data mining, and their applications in real-world problems. He earned his Ph.D. in Artificial Intelligence, conducting research that bridges advanced computational methods with practical applications in fields such as biometrics, data science, and predictive modeling.

Temitayo Fagbola
University of Hull, UK

Advances in Multi-Agent Large Language Models: Innovative Frameworks and Applications in Healthcare and Medicine

Abstract

Recent advancements in artificial intelligence (AI) have driven the evolution of multi-agent large language models (LLMs), unlocking transformative potential in healthcare and medicine. These models, designed to process and generate natural language across multiple agents, are increasingly being applied to complex clinical environments, enhancing decision-making, patient care, and medical research. This talk will explore the cutting-edge frameworks, including Crew AI, LangGraph, and AutoGen, that are optimizing multi-agent LLMs, enabling them to tackle healthcare challenges with precision and efficiency. Crew AI focuses on fostering seamless collaboration between autonomous agents, allowing them to aggregate diverse data sources such as patient records, clinical guidelines, and medical literature. This enables real-time decision support, empowering healthcare providers with evidence-based recommendations at the point of care. LangGraph enhances the ability of multi-agent systems to reason across both structured and unstructured data, facilitating advanced diagnostics, personalized treatment plans, and predictive analytics. AutoGen automates model generation and fine-tuning, improving the adaptability of multi-agent systems to rapidly evolving medical data. These frameworks have shown immense promise in clinical decision support, automated medical coding, drug discovery, and precision medicine. However, challenges remain, including data privacy, ethical concerns, and integration into existing healthcare infrastructures. This talk will address these challenges while highlighting the future trajectory of multi-agent LLMs, offering insights into their effective and ethical implementation in clinical practice.

Biography

Dr. Temitayo Fagbola is an Assistant Professor within the Centre of Excellence for Data Science, Artificial Intelligence and Modelling, University of Hull, United Kingdom. He holds a Ph.D. in Computer Science in 2015. His research interests include medical Natural language processing, Multi AI Agent System optimization, Explainable AI in Precise Cancer Prognosis, and AI for social good. He is the author of two books and more than 60 articles in international journals and conference proceedings. He serves on the editorial board of several top IEEE and Elsevier journals with over 20 years research and consultancy experience in Africa and Europe. Temitayo is a Senior Fellow of the Higher Education Academy UK, a Professional/Chartered Member of the British Computer Society, Institute of Information Technology Professionals, South Africa, the Black-in-AI Community, the Machine Intelligence Institute of Africa, the DataHack4FI in Africa, the International Association of Engineers, and the Computer Professionals (Registration Council) of Nigeria. He has successfully led complex projects with collaborative teams from diverse backgrounds in Africa, Asia and Europe.

Fabrizio Degni
AI Ethics and Governance

The Afterlife in the Age of AI A psychological, ethical, and technological analysis

Abstract

afterlife presents unspotted and underrated challenges and but also opportunities for understanding consciousness, identity, and grief. This research provides a comprehensive interdisciplinary analysis of how AI is reshaping our relationship with mortality, under different domains such as the psychological impacts, technological capabilities, ethical considerations, and cultural perspectives. Through analysis of current digital memorial technologies, psychological frameworks of attachment and grief, and philosophical questions of identity, we establish that AI-enabled afterlife simulations introduce complex dynamics that both extend and disrupt traditional mourning processes: we propose a regulatory framework grounded in principles of informed consent, psychological safeguarding, and cultural sensitivity. It is a first seminal analysis and contribute to the emerging discourse on post-mortem digital identity looking forward to establishing parameters for ethically sound development of afterlife technologies.

Keywords: *artificial intelligence, afterlife beliefs, digital immortality, grief processing, consciousness simulation*

Biography

Fabrizio Degni is a Chief AI, evangelist and researcher in Ethics and Governance of the AI with International collaboration for no-profit activities and projects. For of the latest publications

Yash Mahendra
Valley Bank, USA

Generative AI for Validating Unsupervised Segmentation in Banking: A Hybrid Semantic and Metric-Based Approach

Abstract

Customer segmentation through unsupervised clustering is a cornerstone of modern banking analytics, enabling personalized marketing, risk assessment, and product strategies. Yet, validating these models remains a significant challenge. Traditional metrics such as Silhouette or Davies–Bouldin assess structural quality but fail to confirm whether clusters align with real-world business logic or deliver actionable insights. This presentation introduces an innovative validation and optimization framework that bridges this gap by combining statistical rigor with domain expertise and Generative AI. The process begins by translating institutional segment definitions—such as product mix, behavioral patterns, and risk appetite—into structured, machine-readable rules. Generative AI, powered by large language models and retrieval-augmented generation (RAG), then acts as a semantic evaluator, interpreting cluster summaries and assessing their alignment with these definitions and key performance indicators (KPIs) like profitability, churn, and credit risk. The framework integrates these semantic evaluations with traditional clustering metrics and KPI alignment into a single composite score, creating a transparent and auditable measure of quality. This score is then fed back into the modeling process through an optimization loop, guiding algorithm selection, cluster sizing, and constraint handling to maximize both statistical validity and business interpretability. By uniting advanced AI reasoning with established business logic, this approach addresses a critical gap in model risk management and explainability for unsupervised learning. It empowers financial institutions to validate segmentation models in a way that meets regulatory expectations while unlocking greater strategic value. Real-world case studies demonstrate improved interpretability, stability, and alignment with business objectives.

Biography

Mr. Yash Mahendra serves as Vice President and Data Science Manager at Valley Bank, located in New Jersey, United States. He holds master's in Information Systems with concentration in Data Science. He leads Machine Learning and AI initiatives at the bank, driving innovation to unlock new opportunities and effectively tackle emerging challenges.

Karine Megerdoomian
Valley Bank, USA

Multilingual NLP for Patient Narratives: Advancing Healthcare AI Beyond Structured Data

Abstract

AI in healthcare has largely focused on structured data such as lab results and imaging, overlooking the vast information embedded in unstructured patient narratives. These stories capture emotional, social, and communication dimensions of illness that structured records miss. Reflective accounts illuminate how patients understand diagnoses, navigate treatment decisions, and experience systemic barriers. These insights are critical to improving outcomes but are often inaccessible to AI systems, particularly when expressed in languages other than English.

This talk presents approaches for extracting and modeling patient experiences from multilingual healthcare text using large language models (LLMs). We discuss leveraging instruction-tuned LLMs for temporal event extraction and summarization of patient journeys, applying cross-lingual transfer and low-resource NLP methods to handle underrepresented languages, and designing prompts and fine-tuning strategies that capture domain-specific terminology and cultural nuance across global healthcare systems.

Through case studies spanning oncology and chronic diseases, we demonstrate how multilingual NLP can identify care milestones, emotional states, and unmet needs in patient reflections—enabling more equitable, patient-centered healthcare AI and overcoming linguistic blind spots to unlock the full complexity of patient narratives worldwide.

Biography

Dr. Karine Megerdoomian is a computational linguist and founder of Zoorna, a multilingual NLP and AI lab dedicated to building linguistically informed, ethical AI systems. She holds a PhD in Linguistics from the University of Southern California and has over 20 years of experience bridging linguistic theory with applied AI research. Karine has led large-scale NLP initiatives in federal research and developed cross-lingual resources for underrepresented languages. Her work focuses on low-resource language processing, temporal event extraction, and AI solutions in education and healthcare.

Suleyman AlShowarah
Mutah University, Jordan

Medical Image Analysis Using Deep Learning

Abstract

Suleyman A. Al-Showarah has conducted extensive research at the intersection of Artificial Intelligence, Human–Computer Interaction, and applied machine learning. His early investigations focused on usability and age-related differences in mobile interaction, providing valuable insights into user experience design. Building on this foundation, he developed a significant body of work on behavioral biometrics, employing handwriting and touch dynamics for user identification and demographic classification on smart devices. In recent years, his research has advanced toward deep learning applications in computer vision, with contributions spanning biodiversity recognition and a strong emphasis on medical imaging, including breast cancer, brain tumor, and pneumonia detection. Complementing these efforts, he has explored software engineering methodologies—notably the elicitation of non-functional requirements in agile development, variability detection in use-case diagrams, and healthcare data quality for alternative drug identification. Together, these thematic contributions demonstrate a coherent progression from fundamental HCI studies to innovative AI-driven solutions in healthcare and intelligent systems.

Biography

Suleyman A. Al-Showarah, Ph.D. is an Associate Professor of Computer Science at Mutah University in Karak, Jordan, where he earned his Ph.D. in Computing from the University of Buckingham (UK) in 2015. His primary research interests span Artificial Intelligence, Machine Learning, and Deep Learning, with a particular focus on biometrics, data mining, and user authentication systems.

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6th International Conference on

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January 24-25, 2026 in Zoom Meetings

Website https://hkconferences.com/ai-conference/

5th International Conference on

Artificial Intelligence, Data Science & Bio-Technology

April 11-12, 2026 in Zoom Meetings

Website https://ai.emla.info/

5th International Conference on

Dentistry & Oral Health Care

August 15-16, 2026 in Bangkok, Thailand

Website https://emlaconferences.com/dentistry/

5th International Conference on

Cancer Research & Treatment

November 7-8, 2026 in Bangkok, Thailand

Website https://emlaconferences.com/cancer/

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