ICIT 2023

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Industry Forum: Artificial Intelligence Applications and Impacts

11:00 – 12:00 EDT, Wednesday, April 5, 2023

Industry Speakers

Dr. Biao Zhang
Sr. Principal Scientist
ABB US Research Center

Tony Mongkolsmai
Software Architect / Technical Evangelist
Intel USA

Ludwig Sadredin Sahesch-Pur
CEO, Founder
Airpur Heaven Communications

Industry Talks

11:00 - 11:20 Talk 1: AI for Industrial Robotics

Dr. Biao Zhang, ABB US Research Center

Abstract: The global mega-trends are driving industrial robotics for productivity, quality, flexibility, and simplicity. With recent major progress, artificial intelligence (AI) has become a promising solution for industrial robotics. However, there are gaps between academic results and industrial applications. In this talk, the challenges to AI for industrial robotics are addressed and the ingredients of a way forward are presented with two real-world AI-based industrial applications, Unlocking the 'Last mile' in automated container port, and automating the 'Last line' in Automotive Industry.

Bio: Biao Zhang is a Senior Principal Scientist at ABB US Research Center in Raleigh North Carolina, where he leads the intelligent sensor-based robot motion technology research. Biao received his B.S. and M.S. in mechanical engineering from Tsinghua University and his Ph.D. in mechanical engineering from the University of Notre Dame. His primary research interests are in the field of robot AI vision, vision-guided robotics, 3D vision, robotic force control assembly, automation of material handling, teleoperation, and human-robot collaboration. He published over 50 peer-reviewed papers in conferences and journals. Biao received the Inventor of the Year Award in ABB US Corporate Research in 2014, 2015, and 2016. And he also served as workshop chair, technical session chair, and committee member for IEEE conferences. He had been the Chapter Chair of IEEE Robotics & Automation Society in Connecticut for 10 years, and Co-Chairs of the IEEE RAS Chapters and International Activities Committee.

11:20 - 11:40 Talk 2: Making the Promise of AI Practical for Businesses

Tony Mongkolsmai, Intel

Abstract: Artificial intelligence is becoming a key technological differentiator and companies are tasked with taking the promise of AI and integrating it into their businesses. This is no trivial task, and AI solutions should not be limited to companies with large engineering teams. This talk will outline some key requirements and practical design of an AI production pipeline. It also will cover

some practical examples of how Intel's publicly available reference kits can simplify this process and significantly reduce time to market with the latest hardware and software optimizations.

Bio: Tony is a software architect and technical evangelist at Intel. He has 20 years of industry experience designing, implementing, and leading production grade software solutions. He was a lead architect for Intel's performance tools teams, which included Intel VTune Performance Analyzer. He also led an engineering team that designed and implemented a Cloud Native, scale out AI Data Center for Intel. He also was part of the group that successfully proposed the creation of a Sustainability Technical Advisory Group for the Cloud Native Computing Foundation (CNCF). Tony now helps drive software strategy and evangelizes for Intel in a variety of software spaces including Cloud, AI and oneAPI toolkits. You can hear Tony talk regularly about a variety of technology topics like AI, Quantum Computing and Cloud software design as host of the Code Together podcast. He likes to focus on open-source solutions and driving solutions that promote ease of use and rapid time to market.

11:40 - 12:00 Talk 3: Why it needs the global perspective of risks in industries and specially for individual engineers in a Society – 'Cyber' and other threats in a new business field in the ecosystem.

Ludwig Sadredin Sahesch-Pur, Airpur Heaven Communications

Abstract: The cyber security of critical infrastructures is an essential topic, discipline, and part within national and international security as 16 critical infrastructure sectors touches various aspects of the European and International society. One focus which has been included is the medical device sector, which should be detailed and focused. Because the failure to provide adequate cybersecurity controls within the critical infrastructure sectors renders the country open to attack that could be a debilitating effect on security, national public health, safety, and economic security, this matter is so vital that there are advances as a national Presidential Policy Directive (PPD). Critical infrastructure Security and Resilience advances a national policy to strengthen and maintain secure, functioning, and resilient critical infrastructure. An organization identified as the Cybersecurity and Infrastructure Security Agency (CISA) at the Department of Homeland Security (DHS) has the mission to be the risk advisor for the United States (US). Other organizations such as the National Security Agency (NSA), have approved with doctoral-level grading program. To address this challenge, it is necessary to identify with threats better and defend against them while mitigating risks to an acceptable level. Only then can a nation build a more secure and resilient infrastructure for the future while defending against present-day bad actors as cyberwarfare, cyber espionage, and cybersecurity attacks are the modern-day threats that need to be addressed in planning, designing, implementation and maintenance.

Bio: Sadredin (Ludwig) Sahesch-Pur is an entrepreneur and has been self-employed and active in digital business model development since 2019. He founded Airpur Drones GmbH, the agency for digital business analysis and online communication, after working for several companies in Germany and Switzerland in various specialist and management functions. Born and raised in Germany and Switzerland from a family immigrated to Germany in 1958.
I studied civil and mechanical engineering in 2001 at the OTH Regensburg. Started my PhD career in 2007 in UK Cranfield and got an offer from the industry at the same time. Collecting practical international experience worldwide in commissioning and inspection services around the world. Went through diverse trainee programs from engineering teams to safety trainings and management positions inside of the corporation. Added in 2012 my expertise in welding and quality management certification [IIW] in Germany and international law at the UZH in 2015. After my corporate-experience as risk-manager the previous years, I finished the Swiss-Asian MBA in 2022 in international management businesses, after collecting entrepreneurial experience. I joined an international lectureship program in 2022 in China at the SZTU Shenzhen Business School, for teaching in International Business Management and Cultural Management [IBM].

About

IEEE ICIT 2023 will host an Industry Forum session during the conference. Industry Forum is an IES program for Industry to engage with research in a productive manner. Industry speakers are invited to discuss industry, technology directions, and, most importantly, challenges for the companies. These presentations inform the attendees on the vision and application of technologies in business and what challenges companies are encountering. The forum also offers the opportunity for researchers to study their challenges and know the contacts in the companies should they have a solution that the company might utilize. We want all conference attendees to engage in the Industry Forum and listen to the presentations of our industry speakers so all communities can benefit. For additional Industry Forums organized in IES events visit https://www.ieee-ies.org/industry-forum

Industry Forum Organizers

Stamatis Karnouskos
SAP
IEEE Fellow

Dr. Victor Huang
Sage Technology Resources
IEEE Life Fellow

Dr. Dietmar Bruckner
Unit Manager Software
B&R Industrial Automation