

Special meeting IEEE SYP with Industry

10 December 2020 – live video streaming

Objective

This special meeting is structured in three parts. In the first part IEEE and IEEE Italy Section activities for industry is presented with a special sight on IEEE SYP contribution to industry relation development.

Then, three distinguished speakers of industry will present the vision of their industry on the future developments in the hot topic of Artificial Intelligence.

The meeting will conclude with a panel where industry speakers and Students/YP will have the chance to exchange mutual visions and ways to collaborate and synergically interact. Participation of HR representatives is welcome.

Program

14:15 – 14:45 Welcome to participants and IEEE Presentations

Bernardo Tellini (*IEEE Italy Section Chair*) –IEEE and IEEE Italy Section

Tiziana Tambosso (*IEEE Italy Section Past- Chair*) - IEEE Italy Sections initiatives for Industry

Paolo Maresca (*IEEE Italy Section Student Activity Coordinator*) – A different perspective: how IEEE Students and Young Professionals can enrich the Industry-IEEE relationship.

Industry Strategy

Moderator: IEEE Italy Section YP-AG Chair – Federica Battisti

14:45 – 15:15 Francesco Calabrò - LEONARDO
Artificial Intelligence applied to security

15:15 – 15:45 Danilo Pau – STM
Artificial Neural Networks and tools for Micro controllers

15:45 - 16:15 Antonio Manzalini – TIM
Opportunities and challenges of Artificial Intelligence in 5G communications and services infrastructures and evolutions

16:15- 16:45

Panel: Industry & IEEE Students and Young Professionals

Moderator: IEEE Italy Section YP-AG Vice-Chair – Vincenzo Randazzo

Abstracts and CV of the speakers

Francesco Calabrò (LEONARDO)

Title

Artificial Intelligence applied to security

Abstract

Audio / video analysis has many advantages particularly in the areas of public safety and security. It is often used to empower these two sectors with comprehensive intelligence, security and investigation capabilities as the derived data yields intelligence that can be used by city planners, infrastructure managers, transportation, banking and financial institutions, casinos, gaming and government industries, and the forces of order in understanding and responding to current situations. Quick introduction to the challenge to face with in order to delivery

Curriculum Vitae

He's got his degree in electronic engineering in Pisa and then a Master at the Luiss Business School. He is currently the Head of Artificial Intelligence Research Center for Leonardo's CyberSecurity Division, with the aim of identifying, analyzing, developing, and validating advanced technological solutions based on artificial intelligence. He has dealt with command and control rooms and applications for the domain of safety and security, Smart Building and Microgrid, and has been visiting scholar at the Center for Computational Learning Systems of the Fu Foundation School and Applied Science of Columbia University coordinating the activities of R&D for AI issues applied to cyber-physical systems.

Danilo Pau (STM)

Title

Artificial Neural Networks and tools for Micro controllers

Abstract

Is Artificial Intelligence a trendy technology or a singularity? With this key question in mind, the talk will review key milestones, discuss limitations of centralizing intelligence and review challenges and opportunities of having intelligence closer to sensors which produces data in real time. Next it will introduce and demonstrate ST methodology and tools for automatic deployment of pre trained neural networks on company micro controllers: STM32 and Chorus. It will conclude with some considerations on ultra low power AI and about a more comprehensive AI ecosystem which the MCU mass market is looking at.

Curriculum Vitae

Danilo Pau, graduated at Politecnico di Milano, on 1992 in Electronic Engineering. He joined SGS-THOMSON (now STMicroelectronics) on 1991 and worked on mpeg2 video memory reduction, then video coding, embedded graphics, computer vision, and currently on deep learning. During his career helped in transferring those developments into company products. Also funded and served as 1st Chairman of the STMicroelectronics Technical Staff Italian Community; he is currently Technical Director into System Research and Applications and a Fellow Member of ST. Since 2019 Danilo is an IEEE Fellow, serves as Industry Ambassador coordinator for IEEE Region 8 South Europe, is vice chair of the Task Force on "Intelligent Cyber-Physical Systems" within IEEE CIS and Member for the Machine learning, Deep learning and AI in CE (MDA) Technical Stream Committee IEEE Consumer Electronics Society (CESoc). Contributed with 113 documents the development of Compact Descriptors for Visual Search (CDVS), CDVS successfully developed ISO-IEC 15938-13 MPEG standard. He was Funding Chair of MPEG Ad Hoc Group on Compact Descriptor for Video Analysis (CDVA), formerly

Compact Descriptors for Video Search (CDViS). He also contributes (applications) to MPAAI.community recently started by L. Chiariglione. His scientific production consists of 91 papers to date, 78 granted patents and more than 23 invited talks/seminars at various universities and conferences. He was also principal investigator into numerous funded projects at European and Italian level on embedded systems. Danilo tutored lots of undergraduate students (till Msc graduation), Msc engineers and PhD students from various universities in Italy and India, one of the activities that he likes at most.

Antonio Manzalini (TIM)

Title

Opportunities and challenges of Artificial Intelligence in 5G communications and services infrastructures and evolutions

Abstract

The deployment of the Fifth Generation (5G) of communications and services infrastructures has already started. Major characteristics of 5G include: the availability of ultra-broadband fixed-mobile connectivity at ultra-low latency, a deep integration of Artificial Intelligence (AI) with the network and service platforms, and an increased flexibility and programmability. Moreover, 5G is already enabling new services scenarios where AI is playing a key role, such as: Internet of things, industry 4.0, augmented/virtual reality, multi-media interactive gaming, unmanned mobility, smart cities, etc. These trends are expected even to accelerate in the next decade; future smart networks and services infrastructures will be facing ever-growing traffic challenges in the context of an increased network complexity and dynamicity, where very advanced services scenarios are expected (e.g., ultra-massive scale communications for ambient intelligence, holographic telepresence, tactile Internet, new paradigms for brain computer interactions, innovative forms of communications, etc.). The talk will elaborate on the opportunities and challenges of Artificial Intelligence (AI) in these 5G scenarios and the expected evolutions.

Curriculum Vitae

Antonio Manzalini received the M. Sc. Degree in Electronic Engineering from the Politecnico of Turin (Italy) and the Ph.D on Computer Science and Networks from Télécom SudParis and Université Pierre & Marie Curie – Sorbonne Universités (France). In 1990 he joined Telecom Italia (CSELT) to develop transport networks architectures. He has been ITU Rapporteur (1996-2000). He has been involved in leading roles of several EURESCOM and EU-funded Projects (e.g., FP5 IST Project LION, FP6 IST IP NOBEL, FP6 FET ICT Project CASCADAS). In 2003 he has been appointed as member of the Scientific Committee of the Centre Tecnològic de Telecomunicacions de Catalunya. In 2008 he has got the International Certification of Project Manager by PMI. He has been the leader of two EIT-Digital funded projects on SDN and NFV infrastructures (2010-2012).

In 2013 he has been appointed Chair of the IEEE initiative on Software Defined Networks (2013-2016). Currently, he is joining the Board of IEEE Comsoc Industry Committee. He has been General Chair of the several IEEE Conferences. He owns six patents. His results have been published in more than 130 of technical papers and publications. His activities in TIM concern the evolution towards 5G (SDN/NFV, Cloud vs Multi-Access Edge Computing, Artificial Intelligence) Future Internet and Quantum Communications. He is currently chairing in GSMA a work-item on Multi-Access Edge Computing.

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