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IEEE Future Directions Newsletter

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Brain Related Matters

Highlighting new research and key questions, the IEEE Brain Initiative Workshop brought together experts from interdisciplinary areas to discuss the future of advanced neurotechnologies, as well as ethical considerations when working with the brain.

Read more at *IEEE Pulse*.
Learn more about the IEEE Brain Initiative.

Technology Policy and Ethics

Future Directions considers the reflection of technology through the lens of social implications a key tenant of our work as we incubate and promote technologies. We are seeking submissions of original content, short articles of 800-1200 words on the social implications of technology, including but not limited to policy and ethics topics. If interested please email FDPolicyEthics@ieee.org.

The Slow Tech Journey: An Approach to Teaching Corporate Social Responsibility - Part 2, Continued
by Rebecca Lee Hammons, Norberto Patrignani, and Diane Whitehouse

In the last newsletter, the authors provided additional insight into the importance of the Slow Tech Journey and Corporate Social Responsibility (CSR), and shared a case study of Apple's CSR policies and practices based on a review of a variety of artifacts gleaned from several sources. This newsletter provides two final, internationally-based case studies for the reader's consideration and recommendations for the integration of such case study analysis into the Information and Communication Sciences (ICT) curriculum.
Read more.

IEEE Future Directions Communities

IEEE 5G

IEEE BigData

IEEE Blockchain

IEEE brain

IEEE Cloud Computing

IEEE Cyber Security

IEEE DigitalSenses

IEEE GreenICT

Read The Slow Tech Journey Part 1
Read The Slow Tech Journey Part 2

Future Directions in Privacy-Enhancing Video Surveillance
by Ankur Chattopadhyay and Donxay Rasavong

As today's video surveillance technology continues to get exponentially smarter, the debate on privacy versus security keeps on getting strong momentum with new questions coming up. The terrorist attacks on 11 September 2001 gave the United States Government the power to blur the line between privacy and security without any major pushback by the American public. In today's digital era of social media platforms and smartphones, as surveillance mechanisms keep on evolving with technological advances in computer vision, person re-identification (ReID) has emerged as a new threat to privacy in video surveillance. In a way, it challenges the Fourth Amendment in the American Constitution.
Read more.

IEEE Future Directions Technology Time Machine (TTM) 2018

Save the Date! Join us for the 2018 TTM Symposium 31 October-1 November 2018 at the Hilton San Diego Resort and Spa in San Diego, CA, USA. The IEEE Technology Time Machine is IEEE's flagship conference on future technology directions.

Building upon the IEEE's major technology initiatives, TTM 2018 will bring together renowned experts from research and industry to provide an overview of various technologies and explore how they may be leveraged "beyond tomorrow" through their research, products and services. Participants will not only get a glimpse into tomorrow but also see its relevance to today.

For an early experience on TTM, attend the upcoming Mini-TTMs.

IEEE Future Directions Blog

Read the new IEEE Future Directions Blog by Roberto Saracco, head of the Industrial Doctoral School of European Institute for Innovation and Technology (EIT) Digital and co-chair of the IEEE Future Directions Symbiotic Autonomous Systems Initiative. This blog offers daily insight and observations on a wide variety of emerging technologies, trends, and their implications. Some recent posts include:

- First Commercial Autonomous Systems are Here
- Today it is Rehabilitation, Tomorrow Will it be Augmentation?
- It Will Take Some Effort to Make EV Really "Green"
- Let's Start Talking about 6G!
- What Would Education be Like in 2050?

Visit the daily blog to see the latest posts and increase your awareness of the incredible impact of technology around you!

Current Activities in our Technical Communities

IEEE 5G:
Registration is now open for the 2018 IEEE 5G World Forum! Be a part of the global collaboration creating 5G for the benefit of society 9-11 July 2018, Santa Clara, CA, USA. Learn more at the conference website.

IEEE Cloud Computing:
Sign up for the latest information on cloud computing.

IEEE Cybersecurity:
The IEEE Secure Development (SecDev) Conference will take place 30 September-2 October 2018 in Cambridge, MA, USA. SecDev is distinguished by its focus on how to "build security in" (and not simply to discover the absence of security). Its goal is to encourage and disseminate ideas for secure system development among both academia and industry. Developers have valuable experiences and ideas that can inform academic research, and researchers have concepts, studies, and even code and tools that could benefit developers. Learn more at the conference website.

IEEE Digital Reality:
Visit the newly launched Digital Reality portal for the latest news, events, and resources on AR/VR/MR and related technologies. We also invite you to attend the Augmented World Expo (AWE USA 2018), 30 May-1 June 2018 in Santa Clara, CA, USA where IEEE Digital Reality and IEEE-Standards Association are co-organizing two engaging panel sessions: *Immersive Experiences and Applications*, and *Ethical Considerations of Immersive Realities*.

IEEE Life Sciences:
The IEEE International Conference on Biomedical Robotics and Biomechatronics - BIOROB 2018 is a joint effort of the IEEE Robotics and Automation Society (RAS) and the IEEE Engineering in Medicine and Biology Society (EMBS). It will take place 26-29 August 2018 in Enschede, Netherlands.

IEEE Smart Grid:
Check out the latest Q and A with Gerhard Walker, Askan Rahimi-Kian, and Hisham Omara of Opus One Solutions on Integrated Distribution Planning: Bridging Traditional Capacity Planning and Distributed Energy Resources (DER) Planning.

IEEE Transportation Electrification:
Announcing the first joint AIAA/IEEE Electric Aircraft Technologies Symposium (EATS), 12-13 July 2018, in Cincinnati, OH, USA. The symposium will focus on electric aircraft technology across three programmatic tracks: electric-power enabled aircraft configurations and system requirements, enabling technologies for electric aircraft propulsion, and electric aircraft system integration and controls. Registration will open 3 April. Learn more.

IEEE Internet of Things:
With its vast area, range of geographies, extremes in climate, and specific population patterns, the requirements for successful IoT implementations and sustainment in Alaska are unique. The IEEE IoT Vertical and Topical Summit taking place in Anchorage, AK, USA 11-13 June 2018 is designed as an interactive gathering of constituencies that will be affected by IoT - from end users of IoT based goods, services, and processes, to public sector leaders, administrators, managers, operators, technologists, suppliers and vendors of IoT solutions, and leading practitioners from the research community.

IEEE Software Defined Networks:
IEEE SDN now offers a collection of online courses in the field of Software Defined Networking, Network Function Virtualization, and related technologies. Learn from

industry experts about topics that include the fundamentals of SDN and NFV, security and management challenges, the latest SDN open source platforms, and more. Participants also have the opportunity to earn Continuing Education Units (CEUs) and Professional Development Hours (PDHs) with each course. Check out the available courses.

IEEE Smart Cities:
The Fourth IEEE Annual International Smart Cities Conference (ISC2 2018) will be held in Kansas City, MO, USA 16-19 September 2018. As the flagship conference sponsored by the IEEE Smart Cities Initiative, ISC2 2018 will bring together researchers and practitioners in a collaborative smart cities discussion, including scholars, citizens, policymakers, administrators, infrastructure operators, industry representatives, economists, sociologists, and academicians. Proposals for Papers, Tutorials and Workshops are currently being accepted. Read the guidelines.

IEEE Symbiotic Autonomous Systems Initiative:
New technologies are creating intelligence and connectivity in almost everything, and we are creating more and more things that are essentially digital objects. In many cases, their value and functionality is increasingly governed by software -- whether it's embedded firmware, the operating system, or actual apps. However, if everything essentially becomes a digital object, there are many legal implications that come into the picture. In this webinar, Tom Coughlin, President of Coughlin Associates, looks at the broader sense of what's going in consumer electronics to address these concerns. View this and past webinars on our website.

IEEE Big Data:
IEEE Big Data Initiative is now a technical community! We are delighted to announce the launch of the IEEE Big Data Technical Community under the leadership of our chairs, David Belanger and Jie Li. Join the community.

IEEE Rebooting Computing:
The 4th IEEE International Low-Power Image Recognition Challenge (LPIRC) will be held in Salt Lake City, UT, USA, co-located with International Conference on Computer Vision and Pattern Recognition (CVPR 2018). This year, team contributions are being encouraged for three different tracks.

IEEE Green ICT:
IEEE Green ICT Initiative seeks to reduce the technology's impact on the environment. That is the impetus of green ICT-making this technology more energy efficient and thus reducing its carbon footprint. Jaafar Elmirghani, Co-Chair of the IEEE Green ICT Initiative, got a chance to talk about this in the 12 January 2018 edition of *The Institute*. For more, visit our website.

IEEE Brain:
We have launched the IEEE Brain Initiative Q and A Podcast Series. We bring the specialists to you! Episodes one and two are now available with Professor Eric Perreault of Northwestern University and Professor Sri Sarma of Johns Hopkins University.

IEEE Blockchain:
What is Blockchain? Starting learning today with Introduction to Blockchain Technology, the first course in a series of education modules offered by the IEEE Blockchain Initiative. This entry-level course lays the groundwork for understanding blockchain technology by discussing its origins, key technological features, and different potential applications. Meet your CEU and PDH requirements with this course.

IEEE Future Directions Events

Augmented World Expo, 30 May-1 June 2018, Santa Clara, CA, USA

IEEE IoT Vertical and Topical Summit, 11-13 June 2018, Anchorage, AK, USA

2018 4th IEEE Conference on Network Softwarization and Workshops (NetSoft), 25-29 June 2018, Montreal, QC, Canada

2018 IEEE 5G World Forum (5GWF'18), 9-11 July 2018, Santa Clara, CA, USA

AIAA/IEEE Electric Aircraft Technologies Symposium (EATS), 12-13 July 2018, Cincinnati, OH, USA

IEEE International Conference on Biomedical Robotics and Biomechatronics (BIOROB 2018), 26-29 August 2018, Enschede, the Netherlands

Fourth IEEE Annual International Smart Cities Conference (ISC2 2018), 16-19 September 2018, Kansas City, MO, USA

2018 IEEE Cybersecurity Development (SecDev), 30 September-2 October 2018, Cambridge, MA, USA

IEEE Future Directions Technology Time Machine 2018, 31 October-1 November 2018, San Diego, CA, USA

IEEE Brain Initiative Workshop on Advanced Neurotechnologies, 1-2 November, San Diego, CA, USA

IEEE Rebooting Computing Week, 5-9 November 2018, Washington, DC, USA

Submission/Subscribe Information

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