IT Professional Enters its 20th Year with Confidence

Welcome to the 20th year of IT Professional! The magazine is entering 2018 as an established, highly reputable publication for developers and managers of enterprise information systems. Thanks to our highly selective team of editors and the exceptional support of the IEEE Computer Society (CS) staff, IT Pro is growing and thriving. As the incoming editor in chief (EIC), I would like to present an overview of IT Pro’s current state and where we are headed.

EDITORIAL BOARD

IT Pro has a diverse, highly reputable, and very active editorial board (EB). All EB members support the magazine by managing the peer review process of articles assigned to them and lending their expertise to all areas of the magazine. Some EB members have traditionally served as associate editors in chief (AEICs), column/department editors, special issue guest editors, and conference liaisons. This year, we are adding new roles, including issue management editor, outreach editor, web editor, history and analytics editor, secretary, and awards chair.

For 2018, the CS Publications Board (PB) approved the following AEICs:

- Reza Djavanshir, John Hopkins University (AEIC Regular Papers);
- Charalampos Z. Patrikakis, Piraeus University of Applied Sciences (AEIC Special Issues); and

In addition, the IT Pro EB welcomes four new members, also approved by the PB.

Maria José Escalona, co-editor of the new Student Forum department along with Gustavo Rossi, is a full professor in the Department of Computer Languages and Systems and director of the Web Engineering and Early Testing research group at the University of Seville. Her research interests include requirements engineering, web system development, model-driven engineering, early testing, and quality assurance. Escalona received a PhD in computer science from the University of Seville. She is a member of INPRO, the public company of the Seville government for IT. Contact her at mjescalona@us.es.

Nir Kshetri, editor of the new IT Economics department, is a professor at the University of North Carolina–Greensboro and a research fellow at Kobe University. He is also a consultant for the Asian Development Bank and has participated as a lead discussant at the peer review meeting of the UN’s Information Economy Report. Kshetri received a PhD in business administration from the University of Rhode Island. He is the author of seven books and more than 110 articles in various publications. His book Global Entrepreneurship: Environment and Strategy
(Routledge, 2014) was selected as an Outstanding Academic Title by Choice magazine. Kshetri is the winner of 2016 Bryan School Senior Research Excellence Award, and a two-time winner of the Pacific Telecommunication Council’s Meheroo Jussawalla Research Paper Prize. Contact him at nbkshetr@uncg.edu.

**Kincho H. Law** is a professor of civil and environmental engineering at Stanford University. His research interests include the innovative use of computational and information science in engineering. Law received a PhD in civil engineering from Carnegie Mellon University. He has authored and co-authored more than 400 articles in journals and conference proceedings and has received best research paper awards from the American Society of Civil Engineers (ASCE), the American Society of Mechanical Engineering (ASME), IEEE, and the Digital Government Society. Law received the ASCE Computing in Civil Engineering Award in 2011, and was elected as a Distinguished Member of the ASCE and as a Fellow of the ASME in 2017. Contact him at law@stanford.edu.

**Gianfranco Politano**, web editor along with EB member Arpan Pal, is an assistant professor in the Department of Control and Computer Engineering at Politecnico di Torino. His research interests include the analysis of gene regulatory networks (GRNs) with particular emphasis on networks topological properties analysis and GRN simulation. Politano’s efforts are mostly focused on pattern analysis for recurring post-transcriptional regulatory motif searching in GRNs, and topological analysis of GRNs for highlighting potential molecular targets for new drugs (pharmacogenomics). Politano received a PhD in computer engineering and information technology from Politecnico di Torino. He has been part of the organizing committee of several IEEE conferences. Contact him at gianfranco.politano@polito.it.

**SUBMISSIONS**

*IT Pro* strives to publish only exceptional, innovative articles that highlight advances in IT, discuss their effect on our work and lives, and address related challenges and risks. Over the past three years, *IT Pro* has had 354 article submissions and accepted 69 papers, with an approximate acceptance rate of 19 percent.

In addition to regular papers, *IT Pro* publishes special issues (SIs), each of which is curated by a team of subject-matter experts as guest editors (GEs).

In 2017, *IT Pro* published two issues with regular papers and the following four SIs:

- Mobile Data Analytics (May/June 2017),
- Cognitive Computing (July/August 2017),
- Trusting the Internet of Things (September/October 2017), and
- Graph Databases (November/December 2017).

All published issues can be accessed from the History tab at www.computer.org/it-professional or directly from IEEE Xplore or the CS Digital Library (CSDL).

There are three SIs planned for 2018:

- Financial Technologies and Applications (March/April 2018),
- Cyberthreats and Security (May/June 2018), and
- Connected and Autonomous Driving (November/December 2018).

Submissions for the first two are in review, and the call for papers is open for the third until April 2018 (see publications.computer.org/it-professional/2017/10/24/connected-autonomous-driving).

**COLUMNS AND DEPARTMENTS**

*IT Pro* EB members write or invite authors to write opinion or research-based articles in the following columns and departments.
FROM THE EDITORS

- Columns: From the Editors, IT and Future Employment, IT Trends, Mastermind, Life in the C-Suite, Student Forum (new)
- Departments: Cybersecurity (new name for Securing IT), Data Analytics, Extreme Automation (new), Internet of Things (new), IT Economics (new), Spotlight

DELIVERY METHODS

*IT Pro* is delivered through myCS (epubs, PDF, and HTML), the myComputer app, the CSDL (PDF and HTML), and IEEE Xplore (PDF and HTML). The magazine’s best articles are also featured in Computing Now and *ComputingEdge*, as well as on *IT Pro*’s website (www.computer.org/it-professional).

COLLABORATION WITH CONFERENCES

*IT Pro* has partnered for three years with COMPSAC (www.compsac.org) to cosponsor and organize the IT in Practice (ITiP) symposium. Submissions and participation have been solicited for the fourth ITiP, which will be held in July 2018 in Tokyo, Japan. *IT Pro* also plans to partner with the Software Technology Conference (STC) and to implement the J1C2 (journal first, conference second) and C1J2 (conference first, journal second) publication models.

IN THIS ISSUE

To celebrate the magazine’s 20 successful years, this issue includes retrospectives and reflections from the Advisory Board Chair Sorel Reisman, the inaugural EIC Wushow “Bill” Chou, and former EICs Frank E. Ferrante, Simon Y. Liu, and San Murugesan. The issue also introduces the new IT Economics and Internet of Things departments, the new Student Forum column, and the new editor of Life in the C-Suite. In addition, this issue presents four feature articles.

In “Effectiveness of Test-Driven Development and Continuous Integration: A Case Study,” Chintan Amrit and Yoni Meijberg present a case study where a Dutch small-to-medium enterprise (SME) implemented test-driven development and continuous integration. They discovered a higher number of defects compared to a baseline case study, and an increase in the focus on quality and test applications, while considering customer acceptance. The company now has infrastructure in place to further evaluate other software process improvement initiatives.

In “Automatic Annotation of Text with Pictures,” J. Kent Poots and Ebrahim Bagheri address the challenges related to interpreting large volumes of data, especially for users who need cognitive assistance. The authors describe the techniques that help users understand text through automated text picturing and explain the constituent steps of knowledge extraction, mapping, and scene rendering. Finally, they present the application areas and compare eight “real-world” picturing systems with defined use cases for each.

In “The Design of a Software Engineering Lifecycle Process for Big Data Projects,” Yen-Tai Lin and Sun-Jen Huang present a software engineering lifecycle process for big data projects that is based primarily on the international standard ISO/IEC 15288:2008–Systems and Software Engineering–System Lifecycle Processes. The designed process has been evaluated through big data projects from banking and retail industries in Taiwan.

Finally, in “Improving Transparency and Efficiency in IT Security Management Resourcing,” Knut Haufe, Srdan Dzombeta, Knud Brandis, Vladimir Stantchev, and Ricardo Colomo-Palacios present a resource management process for information security management systems that is based on the international standards of the ISO/IEC 27000 family. They state that the process can be used to more transparently plan and assign costs of controls and can be implemented by any organization regardless of type, size, or nature. The authors also present results from expert evaluation of the process, summarize the main findings, and discuss future work.
IT Pro is highly appreciative to all authors, reviewers, and readers for their contributions. The magazine would not exist without the strong support from its EB and the CS staff. We welcome your comments and suggestions for sustaining IT Pro as the premier forum for IT professionals. I look forward to serving as the EIC of IT Pro.

ABOUT THE AUTHOR

Irena Bojanova is a computer scientist at NIST. Previously, she was a program chair at University of Maryland University College (UMUC), an academic director at Johns Hopkins University’s Center for Talented Youth (JHU-CTY), and a co-founder of OBS Ltd. (now CSC Bulgaria). She earned a PhD in mathematics/computer science from the Bulgarian Academy of Sciences. Bojanova is a Senior Member of IEEE and serves as editor in chief (EIC) of IT Professional, co-chair of the IEEE Reliability Society's Internet of Things Technical Committee, and a founding member of the IEEE Special Technical Committee (STC) on Big Data. Previously, she was the founding chair of the IEEE CS Cloud Computing STC, interim EIC of IEEE Transactions on Cloud Computing, and Member at Large and Integrity Chair of the IEEE CS Publications Board. Contact her at irena.bojanova@computer.org.