The Potential of Deep Learning

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I would like to welcome our readers to the July 2018 issue of IEEE Network. This Special Issue is dedicated to "Exploring Deep Learning for Efficient and Reliable Mobile Sensing." As you all know, Deep Learning (DL) has become a very useful tool that is helping people create exciting applications and create new ways to provide efficient data analysis, cure diseases, prevent security threats, and much more. Progress in this research area continues to unlock more opportunities to researchers and practitioners for enterprises and scientific research where DL can make a big impact on our daily lives. Many believe that the real world potential for DL is highly promising.

Along these lines, this Special Issue is a drop in the bucket trying to address this topic from the "Mobile Smart Devices' Sensing" perspectives. Smart devices such as smartphones and wearables can enable a diverse set of mobile applications. Reliably inferring high-value user behavior and context information from noisy and highly heterogeneous sensor data using mobile devices remains an open issue. In recent years, deep learning techniques have made significant breakthroughs in achieving state-of-art inference performance in a variety of applications.

This special issue presents and discusses recent advanced studies for DL learning for efficient and reliable mobile sensing. It includes nine technical contributions from leading researchers in the area of using DL for mobile sensing/computing. I would like to thank the Guest Editors, Hongzi Zhu, Yanyong Zhang, Mo Li, Ashwin Ashok, and Kaoru Ota, for their exceptional work in attracting outstanding quality of papers and the effort they put in handling reviews in a timely manner.

As always, I would like to thank all the authors who have submitted their research work to *IEEE Network*. I thankfully acknowledge the contribution of the Guest Editors, Associate Editors, and reviewers who have participated in the review process and provided helpful suggestions to the authors to improve the content and presentation of their articles. I hope you will enjoy reading the articles in this collection.

As always, I would like to seek your feedback regarding the direction and substance of the magazine. This is invaluable to me and always appreciated. Please contact me, by email, at mguizani@ieee.org, to let me know what you think about this note and/or this Special Issue, what type of content might be more interesting to you, and in what ways the magazine could be improved or further publicized.

Biography

Mohsen Guizani [S'85, M'89, SM'99, F'09] (mguizani@gmail.com) received the B.S. (with distinction) and M.S. degrees in electrical engineering, the M.S. and Ph.D. degrees in computer engineering from Syracuse University, Syracuse, NY. He is currently a professor and the ECE Department Chair at the University of Idaho, USA. Previously, he served as the Associate Vice President of Graduate Studies, Qatar University, Chair of the Computer Science Department, Western Michigan University, and Chair of the Computer Science Department, University of West Florida. He has also served in academic positions at the University of Missouri-Kansas City, University of Colorado-Boulder, and Syracuse University. His research interests include wireless communications and mobile computing, computer networks, mobile cloud computing, security, and smart grid. He currently serves on the editorial boards of several international technical journals, and he is the Founder and Editor-in-Chief of the journal *Wireless Communications and Mobile Computing* (2000-2016). He is the author of nine books and more than 500 publications in refereed journals and conferences. He guest edited a number of special issues in IEEE journals and magazines. He also served as a member, Chair, and General Chair of a number of international conferences. He received the teaching award multiple times as well as the best Research Award three times. He received the Wireless Technical Committee's Recognition Award in 2017. He was the Chair of the IEEE Communications Society Wireless Technical Committee and the Chair of the TAOS Technical Committee. He served as the IEEE Computer Society Distinguished Speaker from 2003 to 2005. He is a Senior Member of ACM.