Features

Ultra-Low-Power Processors

16 Guest Editors’ Introduction: Ultra-Low-Power Processors
David Brooks and John Sartori

20 CMOS Scaling Trends and Beyond
Mark T. Bohr and Ian A. Young

30 Low-Power Convolutional Neural Network Processor for a Face-Recognition System
Kyongryeol Bong, Sungjil Choi, Changhyeon Kim, and Hoi-Jun Yoo

40 Flying IoT: Toward Low-Power Vision in the Sky
Hasan Genc, Yazhou Zu, Ting-Wu Chin, Matthew Halpern, and Vijay Janapa Reddi

52 Visual IoT: Ultra-Low-Power Processing Architectures and Implications
Vui Seng Chua, Julio Zamora Esquivel, Anindya S. Paul, Thanee Techathamnukool, Carlos Flores Fajardo, Nilesh Jain, Omesh Tickoo, and Ravi Iyer

62 An Overview of Time-Based Computing with Stochastic Constructs
M. Hassan Najafi, Shiva Jamali-Zavareh, David J. Lilja, Marc D. Riedel, Kia Bazargan, and Ramesh Harjani

Kaiyuan Yang, David Blaauw, and Dennis Sylvester

Departments

4 From the Editor in Chief
Moore’s Law and Ultra-Low-Power Processors
Lieven Eckehout

6 Expert Opinion
If You Build It, Will They Come?
Srilatha Manne, Bryan Chin, and Steven K. Reinhardt

13 Expert Opinion
Blurring the Lines between Memory and Computation
Reetuparna Das

90 Awards
2017 International Symposium on Computer Architecture Influential Paper Award
David Brooks

92 Micro Economics
The Hush-Hush Norm
Shane Greenstein

Also in This Issue

5 Computer Society Information