

# IEEE TRANSACTIONS ON CONSUMER ELECTRONICS

FEBRUARY 2016

VOLUME 62

NUMBER 1

ITCEDA

(ISSN 0098-3063)

A Publication by the IEEE Consumer Electronics Society

IEEE Consumer Electronics Society Board of Governors Call for Nominations 2016.....i

## CONTROL SYSTEMS

- An Integrated Cloud-Based Smart Home Management System with Community Hierarchy .....Y.-T. Lee, W.-H. Hsiao, C.-M. Huang and S.-C. T. Chou 1

## NETWORKS

- A Time Synchronization Technique for CoAP-Based Home Automation Systems .....S.-C. Son, N.-W. Kim, B.-T. Lee, C. H. Cho and J. W. Chong 10

## RECORD/PLAYBACK/STORAGE SYSTEMS

- A Solid State Drive Architecture with Memory Card Modules .....J. Luo, L. Fan, Z. Chen and Z. Li 17

- History-Aware Page Replacement Algorithm for NAND Flash-Based Consumer Electronics .....M. Lin, Z. Yao and J. Xiong 23

## SECURITY SYSTEMS

- SEAP: Secure and Efficient Authentication Protocol for NFC Applications Using Pseudonyms .....V. Odelu, A. K. Das and A. Goswami 30

- Secure Firmware Validation and Update for Consumer Devices in Home Networking .....B.-C. Choi, S.-H. Lee, J.-C. Na and J.-H. Lee 39

## SIGNAL PROCESSING

- Optimal Reference View Selection Algorithm for Low Complexity Disparity Estimation .....M. Choi, I. J. Chang and J. Kim 45

- A Thermal Margin Preservation Scheme for Interactive Multimedia Consumer Electronics .....N. Badano, Y. Woo, J. Hwang and E. Seo 53

- Power Saving with Passive Standby Mode Using Bitmap-Based Activity Logs for Energy-Efficient Set-Top Box .....E.-S. Jung, J. Bang, Y.-T. Lee and W. Ryu 62

- An Area and Power Efficient Adder-Based Stepwise Linear Interpolation for Digital Signal Processing .....C.-H. Huang and C.-Y. Chang 69

- Selective Gray-Coded Bit-Plane Based Low-Complexity Motion Estimation and Its Hardware Architecture .....S. Yavuz, A. Çelebi, M. Aslam and O. Urhan 76

## SOFTWARE FOR CONSUMER PRODUCTS

- SDIF: Social Device Interaction Framework for Encounter and Play in Smart Home Service .....D.-O. K., J.-H. Choi, J.-Y. Jung, K. Kang and C. Bae 85

