김재준 Jae Joon Kim

전기전자공학과 / Electrical Engineering

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LAB Engineering BLDG 3. Rm 401-2

Curriculum Vitae

18 years of industry and research-related experience giving both academic and practical perspective. 9 years of experience in teaching undergraduate & graduate level courses at UNIST. 6 years of government experience as a deputy director giving valuable understanding on national government R&D programs.
Authored 78 Patents including 17 International Patents, 43 SCI-level Journal Papers in the fields of healthcare devices, smart sensor interfaces, and integrated circuits/systems.

Academic Credential

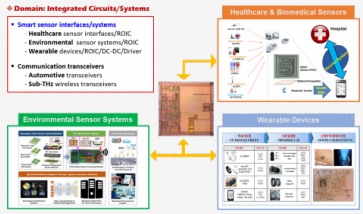
Ph.D. : Electrical Engineering
Korea Advanced Institute of Science and Technology, Daejeon, February 2003
M.S. : Electrical Engineering
Korea Advanced Institute of Science and Technology, Daejeon, February 1998
B.S. : Electronic Engineering
Hanyang University, Seoul, February 1996

Awards/Honors/Memberships

- Non-executive Board Member, Korea Communication Agency
- Personnel Committee, Ulsan Technopark
- Board Member, Korean Sensor Society
- Board Member, Institute of Semiconductor Engineers
- Board Member, Institute of Electronics and Information Engineers (IEIE)

Convergence Semiconductor Design Lab
융합반도체설계연구실

Our future lifestyle would be implemented on a chip. Based on this belief, we have studied various future technology trends. Our current research topics include smart sensor interface circuits, healthcare circuits/systems, wearable interfaces, multiple gas detection circuits/systems, touch/fingerprint sensor interfaces,wireless transceivers, and various analog integrated circuits including data converters.
융합반도체설계연구실은 다양한 학문간의 융합기술을 시스템화하기 위해 필요한 반도체 회로 및 시스템 설계기술을 연구합니다. 특히, 웨어러블 디바이스, 헬스케어 및 의료 기기, 환경센서, 스마트센서 분야를 주요 응용으로 하며 설계된 아날로그/혼성모드 신호처리칩을 기반으로 인공지능을 연계한 시스템 및 플랫폼까지 연구개발하고 있습니다.



관심분야

Integrated Circuits & Systems; Smart Sensor Systems; Wearable/Healthcare Devices

희망분야

AI-Based Intelligent Smart Sensors, Brain-to-X Interfaces, Mental Healthcare Monitoring

Research Keywords and Topics

- Advanced Intelligent IoT Sensor Platform with AI-Based Recognition and Self-Calibration
- Reconfigurable Attachable Heterogeneous Multi-Sensor Patches
- Self-powered power and sensor integrated systems
- Innovative Wearable Healthcare Device and Brain-to-Computer Interface (BCI) Platform

Research Publications

[1] K. Park, S. Choi, H. Y. Chae, C. S. Park, S. Lee, Y. Lim, H. Shin, J. J. Kim, "An Energy-Efficient Multimode Multichannel Gas-Sensor System with Learning-Based Optimization and Self-Calibration Schemes," IEEE Transactions on Industrial Electronics, Vol. 67, Issue 3, pp. 2401-2410; doi:10.1109/TIE.2019.2905819, March 2020.
[2] K. Lee, H. Y. Chae, K. Park, Y. Lee, S. Cho, H. Ko, J. J. Kim, "A Multi-Functional Physiological Hybrid-Sensing E-Skin Integrated Interface for Wearable IoT Applications," IEEE Transactions on Biomedical Circuits and Systems, Vol. 13, Issue 6, pp. 1535-1544; doi:10.1109/TBCAS.2019.2946875, December, 2019.
[3] S. Choi, D. J. Kim, Y. Y. Choi, K. Park, S.-W. Kim, S. H. Woo, J. J. Kim, "A Multi-Sensor Mobile Interface for Industrial Environment and Healthcare Monitoring," IEEE Transactions on Industrial Electronics., Vol. 64, Issue 3, pp. 2344-2352, March, 2017.

Patents

[1] US 15/976,708 : Successive Approximation register analog-to-digital converter combined with flash analog-to-digital converter, 05/10/2018. (US Patent, US10277243, 04/30/2019)
[2] US 16/074,752 : Composite monitoring apparatus and method, 08/01/2018. (US Patent, US10524732, 01/07/2020)