Younghyun Kim

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POSITIONS

University of Wisconsin–Madison
Assistant Professor, Electrical and Computer Engineering 2016–Present

Purdue University
Postdoctoral Research Assistant, Electrical and Computer Engineering 2013–2016

Seoul National University
Postdoctoral Researcher, Electrical Engineering and Computer Science 2013–2013

EDUCATION

Seoul National University
Ph.D. in Electrical Engineering and Computer Science 2013
Dissertation: "Design and Runtime Optimizations of Hybrid Electrical Energy Storage Systems"
European Design and Automation Association (EDAA) Outstanding Dissertation Award

B.Sc. in Computer Science and Engineering, Highest Honor 2007

RESEARCH INTERESTS

Embedded computing systems, Internet-of-Things, Cyber-physical systems, Energy-efficient computing, Embedded systems security and privacy

AWARDS & HONORS

ECE Faculty Service Award, UW-Madison ECE 2022
Meta Research Award, Meta 2021
IWLS Programming Contest 1st Place, International Workshop on Logic & Synthesis (IWLS) 2021
ECE Outstanding Graduate Student Mentoring Award, UW-Madison ECE 2021
IEEE Micro Top Pick 2020
Grainger Faculty Scholar Award, Grainger Institute for Engineering 2020
NSF CAREER Award, National Science Foundation (NSF) 2019
Best Presentation Award, KOCSEA Technical Symposium 2018
ISLPED Low-Power Design Contest Award, International Symposium on Low Power Electronics and Design (ISLPED) 2018
Poster Award, 3rd Place, US-Korea Forum on Nanotechnology 2018
Best Demo Award, SIGDA University Demonstration at Design Automation Conference (DAC) 2018
ISLPED Low-Power Design Contest Award, International Symposium on Low Power Electronics and Design (ISLPED) 2017
Grainger Faculty Scholar Award, Grainger Institute for Engineering 2017
ISLPED Best Paper Finalist, International Symposium on Low Power Electronics and Design (ISLPED) 2016
Outstanding Dissertation Award, European Design and Automation Association (EDAA) 2013
SNU BK21 Excellent Research Award, Brain Korea 21 (BK21) Division of Information Technology, Seoul National University 2012
ISLPED Low-Power Design Contest Award, International Symposium on Low Power Electronics and Design (ISLPED) 2012
ISOCC IEEE SSCS Seoul Chapter Award, International SoC Design Conference (ISOCC) 2009
SoC Design Contest Winner, Ministry of Knowledge Economy of Korea 2008
Seoul Fellowship, Seoul Metropolitan Government 2008
ISLPED Low-Power Design Contest Award, International Symposium on Low Power Electronics and Design (ISLPED) 2007

PUBLICATIONS

BOOK

[1] Younghyun Kim and Naehyuck Chang, ***"Design and Management of Energy-Efficient Hybrid Electrical Energy Storage Systems,"*** Springer, 2014 (ISBN 978-3-319-07280-7)
European Design and Automation Association (EDAA) Outstanding Dissertation Award

BOOK CHAPTERS

[2] Naehyuck Chang, Massoud Pedram, Hyung Gyu Lee, Yanzhi Wang, and Younghyun Kim, **"Reconfigurable Photovoltaic Array Systems for Adaptive and Fault-Tolerant Energy Harvesting,"** *Nano Devices and Circuit Techniques for Low-Energy Applications and Energy Harvesting (KAIST Research Series)*, pp. 181–209, 2016 (ISBN 978-94-017-9989-8)

[1] Younghyun Kim, Woo Suk Lee, Anand Raghunathan, Vijay Raghunathan, and Niraj K. Jha, **"Reliability and Security of Implantable and Wearable Medical Devices,"** *Implantable Biomedical Microsystems: Design Principles and Applications*, pp. 167–199, William Andrew (Elsevier), 2015 (ISBN 978-0-323-26208-8)

JOURNALS

[28] Dayoung Lee, Younghyun Kim, and Minseok Song, **"Cost-Effective, Quality-Oriented Transcoding of Live-Streamed Video on Edge-Servers,"** in *IEEE Transactions on Services Computing* (to appear), 2023

[27] Ji-Eun Joo, Yu Hu, Sujin Kim, Hyunji Kim, Sunyoung Park, Ji-Hoon Kim, Younghyun Kim, and Sung Min Park, **"Indoor-Monitoring LiDAR Sensor for Alzheimer Patients Residing in Long-Term Care Facilities,"** in *Sensors*, Vol. 22, No. 20, pp. 7934, 2022

[26] Kyuin Lee, Yucheng Yang, Omkar Chandrakant Prabhune, Aishwarya Lekshmi Chithra, Jack West, Kassem Fawaz, Neil Klingensmith, Suman Banerjee, and Younghyun Kim, **"AeroKey: Using Ambient Electromagnetic Radiation for Secure and Usable Wireless Device Authentication,"** in *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT**)*, Vol. 6, No. 1, pp. 20:1–20:29, 2022 (Presented at the ACM International Joint Conference on Pervasive and Ubiquitous Computing (**UbiComp**) 2022)

[25] Seungwoo Lee, Minjae Kang, Younghyun Kim, Ikjune Yoon, and Dong Kun Noh, **"Dual-line Data Collection Scheme for Efficient Mobile Sink Operation in Solar-Powered Wireless Sensor Network,"** in *Sustainable Computing: Informatics and Systems*, Vol. 34, pp. 100659, 2021 (Presented at the International Green and Sustainable Computing Conference (**IGSC**) 2021)

[24] Di Wu, Jingjie Li, Ruokai Yin, Hsuan Hsiao, Younghyun Kim, and Joshua San Miguel, **"uGEMM: Unary Computing for GEMM Applications,"** in *IEEE Micro*, Vol. 41, No. 3, pp. 50–56, 2021
Speical Issue on IEEE Micro Top Picks

[23] Yongwoo Lee, Jaehyun Park, Junhee Ryu, and Younghyun Kim, **"AxFTL: Exploiting Error Tolerance for Extending Lifetime of NAND Flash Storage,"** in *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (**TCAD**)*, Vol. 39, No. 11, pp. 3239–3249, 2020 (Presented at the International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (**CASES**) 2020)
Patent pending

[22] Gun Wook Gil, Minjae Kang, Younghyun Kim, Ikjune Yoon, and Dong Kun Noh, **"Efficient FEC Scheme for Solar-Powered WSNs Considering Energy and Link-Quality,"** in *Energies*, Vol .13, No. 15, pp. 3952, 2020

[21] Seok Hyun Cheong, Minjae Kang, Younghyun Kim, Minho Park, Jinho Park, and Dong Kun Noh, **"Solar-CTP: An Enhanced CTP for Solar-Powered Wireless Sensor Networks,"** in *IEEE Access*, Vol .8, pp. 127142–127155, 2020

[20] Youngjae Son, Minjae Kang, Younghyun Kim, Ikjune Yoon, and Dong Kun Noh, **"Energy-Efficient Cluster Management Using a Mobile Charger for Solar-Powered Wireless Sensor Networks,"** in *Sensors*, Vol .20, No. 13, pp. 3668, 2020

[19] Hanwook Chung, Jingjie Li, Younghyun Kim, Jennifer Van Os, Sabrina Brounts, and Christopher Choi, **"Using Implantable Biosensors and Wearable Scanners to Monitor Dairy Cattle's Core Body Temperature in Real-Time,"** in *Computers and Electronics in Agriculture*, Vol .174, pp. 105453, 2020

[18] Kyuin Lee, Neil Klingensmith, Suman Banerjee, and Younghyun Kim, **"VoltKey: Continuous Secret Key Generation based on Power Line Noise for Zero-Involvement Pairing and Authentication,"** in *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT**)*, Vol. 3, No. 3, pp. 93:1–93:26, 2019 (Presented at the ACM International Joint Conference on Pervasive and Ubiquitous Computing (**UbiComp**) 2019)
Patent pending

[17] Jackson Melchert, Setareh Behroozi, Jingjie Li, and Younghyun Kim, **"SAADI-EC: A Quality-Configurable Approximate Divider for Energy Efficiency,"** in *IEEE Transactions on VLSI Systems (**TVLSI**)*, Vol. 27, No. 11, pp. 2680–2692, 2019

[16] Dawon Park and Younghyun Kim, **"Fast Pareto Front Exploration for Design of Reconfigurable Energy Storage,"** in *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (**TCAD**)*, Vol. 38, No. 3, pp. 526–537, 2019

[15] Setareh Behroozi, Vijay Raghunathan, Anand Raghunathan, and Younghyun Kim, **"A Quality-Configurable Approximate Serial Bus for Energy-Efficient Sensory Data Transfer,"** in *IEEE Journal on Emerging and Selected Topics in Circuits and Systems (**JETCAS**)*, Vol. 8, No. 3, pp. 379–390, 2018

[14] Younghyun Kim, Vijay Raghunathan, and Anand Raghunathan, **"Design and Management of Battery-Supercapacitor Hybrid Electrical Energy Storage Systems for Regulation Services,"** in *IEEE Transactions on Multi-Scale Computing Systems (**TMSCS**)*, Vol. 3, No. 1, pp. 12–24, 2017

[13] Yanzhi Wang, Xue Lin, Younghyun Kim, Naehyuck Chang, and Massoud Pedram, **"Architecture and Control Algorithms for Combating Partial Shading in Photovoltaic Systems,"** *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (**TCAD**)*, Vol. 33, No. 6, pp. 917–930, 2014

[12] Yanzhi Wang, Xue Lin, Younghyun Kim, Qing Xie, Massoud Pedram, and Naehyuck Chang, **Single-Source, Single-Destination Charge Migration in Hybrid Electrical Energy Storage Systems,"** *IEEE Transactions on VLSI Systems (**TVLSI**)*, Vol. 22, No. 12, pp. 2752–2765, 2014

[11] Qing Xie, Younghyun Kim, Yanzhi Wang, Jaemin Kim, Naehyuck Chang, and Massoud Pedram, **"Principles and Efficient Implementation of Charge Replacement in Hybrid Electrical Energy Storage Systems,"** *IEEE Transactions on Power Electronics (**TPEL**)*, Vol. 29, No. 11, pp. 6110–6123, 2014

[10] Younghyun Kim, Jason Koh, Qing Xie, Yanzhi Wang, Naehyuck Chang, and Massoud Pedram, **"A Scalable and Flexible Hybrid Energy Storage System Design and Implementation,"** *Journal of Power Sources*, Vol. 255, pp. 410–422, 2014
Low-Power Design Contest Award at ISLPED 2012

[9] Younghyun Kim, Yanzhi Wang, Naehyuck Chang, and Massoud Pedram, **"Computer-Aided Design and Optimization of Hybrid Energy Storage Systems,"** *Foundations and Trends in Electronic Design Automation (**FnTEDA**)*, Vol. 7, No. 4, pp. 247–338, 2013

[8] Donghwa Shin, Younghyun Kim, Massoud Pedram, and Naehyuck Chang, **"Dynamic Driver Supply Voltage Scaling for Organic Light Emitting Diode Displays,"** *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (**TCAD**)*, Vol. 32, No. 7, pp. 1017–1030, 2013

[7] Qing Xie, Yanzhi Wang, Younghyun Kim, Massoud Pedram, and Naehyuck Chang, **"Charge Allocation in Hybrid Electrical Energy Storage Systems,"** *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (**TCAD**)*, Vol. 32, No. 7, pp. 1003–1016, 2013

[6] Sangyoung Park, Younghyun Kim, Jaehyun Park, and Naehyuck Chang, **"Power Converter-Aware Design of Electronics Systems,"** *IPSJ Transactions on System LSI Design Methodology (**T-SLDM**)*, Vol. 8, No. 2, pp. 2–16, 2013

[5] Younghyun Kim, Woojoo Lee, Massoud Pedram, and Naehyuck Chang, **"Dual-Mode Power Regulator for Photovoltaic Module Emulation,"** *Applied Energy*, Vol. , pp. 730–739, 2013

[4] Donghwa Shin, Jaehyun Park, Younghyun Kim, Jaeam Seo, and Naehyuck Chang, **"Control-Theoretic Cyber Physical System Modeling and Synthesis: A Case Study of an Active DMFC,"** *ACM Transactions in Embedded Computing Systems (**TECS**)*, Vol. 11, No. 4, pp. 76:1–76:24, 2012

[3] Donghwa Shin, Younghyun Kim, Yanzhi Wang, Naehyuck Chang, and Massoud Pedram, **"Constant-Current Regulator-Based Battery-Supercapacitor Hybrid Architecture for High-Rate Pulsed Load Applications,"** *Journal of Power Sources*, Vol. 205, pp. 516–524, 2012

[2] Younghyun Kim, Sangyoung Park, Youngjin Cho, and Naehyuck Chang, **"System-Level Online Power Estimation using an On-Chip Bus Performance Monitoring Unit,"** *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (**TCAD**)*, Vol. 30, No. 11, pp. 1585–1598, 2011

[1] Younghyun Kim, Donghwa Shin, Jueun Seo, Naehyuck Chang, Hyejung Cho, Youngjae Kim, and Seongkee Yoon, **"System Integration of a Portable Direct Methanol Fuel Cell and a Battery Hybrid,"** *International Journal of Hydrogen Energy*, Vol. 35, No. 11, pp. 5621–5637, 2010

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[63] Jingjie Li, Kaiwen Sun, Brittany Skye Huff, Anna Marie Bierley, Younghyun Kim, Florian Schaub, and Kassem Fawaz, **"It's up to the Consumer to be Smart: Understanding the Security and Privacy Attitudes of Smart Home Users on Reddit,"** in *Proceedings of the IEEE Symposium on Security and Privacy (**S&P**)*, San Francisco, CA, 2023

[62] Tianen Chen, Noah Anderson, and Younghyun Kim, **"Latent Weight-based Pruning for Small Binary Neural Networks,"** in *Proceedings of Asia South Pacific Design Automation Conference (**ASP-DAC**)*, Tokyo, Japan, 2023

[61] Yigit Tuncel, Anish Krishnakumar, Aishwarya Lekshmi Chithra, Younghyun Kim, and Umit Ogras, **"A Domain-Specific System-On-Chip Design for Energy Efficient Wearable Edge AI Applications,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 20:1–20:6, Boston, MA, 2022

[60] Di Wu, Jingjie Li, Zhewen Pan, Younghyun Kim, and Joshua San Miguel, **"uBrain: A Unary Brain Computer Interface,"** in *Proceedings of the International Symposium on Computer Architecture (**ISCA**)*, pp. 468–481, New York, NY, 2022

[59] Jakob Veselsky, Jack West, Isaac Ahlgren, Abinav Goel, Wenxin Jiang, Kyuin Lee, Younghyun Kim, James C. Davis, George K. Thiruvathukal, and Neil Klingensmith, **"Establishing Trust in Vehicle-to-Vehicle Coordination: A Sensor Fusion Approach,"** in *Proceedings of the Workshop on Data-Driven and Intelligent Cyber-Physical Systems for Smart Cities (**DI-CPS**)*, Virtual, 2022

[58] Jakob Veselsky, Jack West, Isaac Ahlgren, George K. Thiruvathukal, Neil Klingensmith, Abinav Goel, Wenxin Jiang, James C. Davis, Kyuin Lee, and Younghyun Kim, **"Establishing Trust in Vehicle-to-Vehicle Coordination: A Sensor Fusion Approach,"** in *Proceedings of the International Workshop on Mobile Computing Systems and Applications (**HotMobile**)*, pp. 128, Tempe, AZ, 2022

[57] Tianen Chen, Taylor Kemp, and Younghyun Kim, **"SynthNet: A High-throughput yet Energy-efficient Combinational Logic Neural Network,"** in *Proceedings of Asia South Pacific Design Automation Conference (**ASP-DAC**)*, pp. 232–237, Virtual, 2022

[56] Kyuin Lee and Younghyun Kim, **"Balancing Security and Usability of Zero-interaction Pairing and Authentication for the Internet-of-Things,"** in *Proceedings of the Workshop on CPS & IoT Security and Privacy (**CPSIoTSec**)*, pp. 29–34, Virtual, 2021

[55] Yucheng Yang*, Kyuin Lee*, Younghyun Kim, and Kassem Fawaz, **"PEDRO: Secure Pedestrian Mobility Verification in V2P Communication using COTS Mobile Devices,"** in *Proceedings of the Workshop on CPS & IoT Security and Privacy (**CPSIoTSec**)*, pp. 41–46, Virtual, 2021 (*Equal contribution by Yang and Lee)

[54] Di Wu, Jingjie Li, Setareh Behroozi, Younghyun Kim, and Joshua San Miguel, **"UNO: Virtualizing and Unifying Nonlinear Operations for Emerging Neural Networks,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 1–6, Virtual, 2021

[53] Jack West, Kyuin Lee, Suman Banerjee, Younghyun Kim, George K. Thiruvathukal, and Neil Klingensmith, **"Moonshine: An Online Randomness Distiller for Zero-Involvement Authentication,"** in *Proceedings of ACM International Conference on Information Processing in Sensor Networks (**IPSN**)*, pp. 93–105, Virtual, 2021

[52] Jingjie Li, Amrita Roy Chowdhury, Kassem Fawaz, and Younghyun Kim, **"Kaleido: Real-Time Privacy Control for Eye-Tracking Systems,"** in *Proceedings of USENIX Security Symposium*, Vancouver, BC, Canada, 2021

[51] Setareh Behroozi, Yao Yao, Hoeseok Yang, and Younghyun Kim, **"Scheduling of Iterative Computing Hardware Units for Accuracy and Energy Efficiency,"** in *International Symposium on Circuits and Systems (**ISCAS**)*, pp 1–5, Daegu, Korea, 2021

[50] Taylor Kemp, Yao Yao, and Younghyun Kim, **"MIPAC: Dynamic Input-Aware Accuracy Control for Dynamic Auto-Tuning of Iterative Approximate Computing,"** in *Proceedings of Asia South Pacific Design Automation Conference (**ASP-DAC**)*, pp. 248–253, Tokyo, Japan, 2021

[49] Kyuin Lee, Neil Klingensmith, Dong He, Suman Banerjee, and Younghyun Kim, **"ivPair: Context-Based Fast Intra-Vehicle Device Pairing forSecure Wireless Connectivity,"** in *Proceedings of ACM Conference on Security and Privacy in Wireless and Mobile Networks (**WiSec**)*, pp. 25–30, Linz, Austria, 2020
Patent pending

[48] Di Wu, Jingjie Li, Ruokai Yin, Hsuan Hsiao, Younghyun Kim, and Joshua San Miguel, **"uGEMM: Unary Computing Architecture for GEMM Applications,"** in *Proceedings of ACM/IEEE International Symposium on Computer Architecture (**ISCA**)*, pp. 377–390, Valencia, Spain, 2020
IEEE Micro Top Pick

[47] Younghyun Kim, Joshua San Miguel, Setareh Behroozi, Tianen Chen, Kyuin Lee, Yongwoo Lee, Jingjie Li, and Di Wu, **"Approximate Hardware Techniques for Energy-Quality Scaling Across the System,"** in *Proceedings of IEIE/IEEE International Conference on Electronics, Information, and Communication (**ICEIC**)*, pp. 1–5, Barcelona, Spain, 2020

[46] Yongwoo Lee, Jingjie Li, and Younghyun Kim, **"MicPrint: Acoustic Sensor Fingerprinting for Spoof-Resistant Mobile Device Authentication,"** in *Proceedings of EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (**MobiQuitous**)*, pp. 248–257, Houston, TX, 2019

[45] Jingjie Li, Kassem Fawaz, and Younghyun Kim, **"Velody: Nonlinear Vibration Challenge-Response for Resilient User Authentication,"** in *Proceedings of ACM Conference on Computer and Communications Security (**CCS**)*, pp. 1201–1213, London, United Kingdom, 2019

[44] Di Wu, Tianen Chen, Chien-Fu Chen, Oghenefego Ahia, Joshua San Miguel, Mikko Lipasti, and Younghyun Kim, **"SECO: A Scalable Accuracy Approximate Exponential Function via Cross-Level Optimization,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 1–6, Lausanne, Switzerland, 2019

[43] Neil Klingensmith, Younghyun Kim, and Suman Banerjee, **"A Hypervisor-Based Privacy Agent for Mobile and IoT Systems,"** in *Proceedings of the International Workshop on Mobile Computing Systems and Applications (**HotMobile**)*, pp. 21–26, Santa Cruz, CA, 2019

[42] Setareh Behroozi, Jingjie Li, Jackson Melchert, and Younghyun Kim, **"SAADI: A Scalable Accuracy Approximate Divider for Dynamic Energy-Quality Scaling,"** in *Proceedings of Asia South Pacific Design Automation Conference (**ASP-DAC**)*, pp. 481–486, Tokyo, Japan, 2019

[41] Kyuin Lee, Vijay Raghunathan, Anand Raghunathan, and Younghyun Kim, **"SyncVibe: Fast and Secure Device Pairing through Physical Vibration on Commodity Smartphones,"** in *Proceedings of IEEE International Conference on Computer Design (**ICCD**)*, pp. 234–241, Orlando, FL, 2018

[40] Hanwook Chung, Jingjie Li, Younghyun Kim, and Christopher Y. Choi, **"Continuous and Wireless Skin Contact and Ear Implant Temperature Measurements and Relations to the Core Body Temperature of Heat Stressed Dairy Cows,"** in *Proceedings of ASABE International Livestock Environment Symposium (**ILES**)*, Omaha, NE, 2018

[39] Younghyun Kim and Yongwoo Lee, **"CamPUF: Physically Unclonable Function based on CMOS Image Sensor Fixed Pattern Noise,"** in *Proceedings of Design Automation Conference (**DAC**)*, pp. 66:1–66:6, San Francisco, CA, 2018
Best Demonstration Award at SIGDA University Demonstration at DAC 2018

[38] Younghyun Kim, Setareh Behroozi, Vijay Raghunathan, and Anand Raghunathan, **"AxSerBus: A Quality-Configurable Approximate Serial Bus for Energy-Efficient Sensing,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 1–6, Taipei, Taiwan, 2017
Low-Power Design Contest Award at ISLPED 2018

[37] Woo Suk Lee, Younghyun Kim, and Vijay Raghunathan, **"TeleProbe: Zero-power Contactless Probing for Implantable Medical Devices,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 28–33, San Francisco, CA, 2016
Best Paper Finalist at ISLPED 2016 & Low-Power Design Contest Award at ISLPED 2017

[36] Hrishikesh Jayakumar, Arnab Raha, Younghyun Kim, Soubhagya Sutar, Woo Suk Lee, and Vijay Raghunathan, **"Energy-Efficient System Design for IoT Devices,"** in *Proceedings of Asia South Pacific Design Automation Conference (**ASP-DAC**)*, pp. 298–301, Macau, China, 2016

[35] Younghyun Kim, Woo Suk Lee, Vijay Raghunathan, Niraj K. Jha, and Anand Raghunathan, **"Vibration-based Secure Side Channel for Medical Devices,"** in *Proceedings of Design Automation Conference (**DAC**)*, pp. 32:1–32:6, San Francisco, CA, 2015
Patented

[34] Qing Xie, Younghyun Kim, Donkyu Baek, Yanzhi Wang, Massoud Pedram, and Naehyuck Chang, **"Efficiency-Driven Design Time Optimization of a Hybrid Energy Storage System with Networked Charge Transfer Interconnect,"** in *Proceedings of Design Automation and Test in Europe (**DATE**)*, pp. 1607–1610, Grenoble, France, 2015

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[32] Hrishikesh Jayakumar, Kangwoo Lee, Woo Suk Lee, Arnab Raha, Younghyun Kim, and Vijay Raghunathan, **"Powering the Internet of Things,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 375–380, La Jolla, CA, 2014

[31] Cong Wang, Naehyuck Chang, Younghyun Kim, Sangyoung Park, Yongpan Liu, Hyunggyu Lee, Rong Luo, and Huazhong Yang, **"Storage-less and Converter-less Maximum Power Point Tracking of Photovoltaic Cells for a Nonvolatile Microprocessor,"** in *Proceedings of Asia South Pacific Design Automation Conference (**ASP-DAC**)*, pp. 379–384, Singapore, 2014

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[29] Di Zhu, Siyu Yue, Yanzhi Wang, Younghyun Kim, Naehyuck Chang, and Massoud Pedram, **"Designing a Residential Hybrid Electrical Energy Storage System Based on the Energy Buffering Strategy,"** in *Proceedings of the International Conference on Hardware-Software Codesign and System Synthesis (**CODES+ISSS**)*, pp. 32:1–32:9, Montreal, Canada, 2013

[28] Siyu Yue, Di Zhu, Yanzhi Wang, Younghyun Kim, Naehyuck Chang, and Massoud Pedram, **"SIMES: a Simulator for Hybrid Electrical Energy Storage Systems,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 33–38, Beijing, China, 2013

[27] Sangyoung Park, Bumkyu Koh, Yanzhi Wang, Jaemin Kim, Younghyun Kim, Massoud Pedram, and Naehyuck Chang, **"Maximum Power Transfer Tracking in a Solar USB Charger for Smartphone,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 88–93, Beijing, China, 2013

[26] Sangyoung Park, Younghyun Kim, and Naehyuck Chang, **"Hybrid Energy Storage Systems and Battery Management for Electric Vehicles,"** in *Proceedings of Design Automation Conference (**DAC**)*, pp. 97:1–97:6, Austin, TX, 2013

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[23] Yanzhi Wang, Xue Lin, Younghyun Kim, Naehyuck Chang, and Massoud Pedram, **"Enhancing Efficiency and Robustness of a Photovoltaic Power System under Partial Shading,"** in *Proceedings of the International Symposium on Quality Electronic Design (**ISQED**)*, pp. 592–600, Santa Clara, CA, 2012

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[19] Qing Xie, Yanzhi Wang, Younghyun Kim, Donghwa Shin, Naehyuck Chang, and Massoud Pedram, **"Charge Replacement in Hybrid Electrical Energy Storage Systems,"** in *Proceedings of Asia South Pacific Design Automation Conference (**ASP-DAC**)*, pp. 627–632, Sydney, Australia, 2012

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[13] Younghyun Kim, Jooyeon Lee, Youngshin Koh, and Naehyuck Chang, **"Bluetooth Wireless Handset for People with Severe Motor Disabilities: Capstone Design Project for Rehabilitation Technology,"** in *Proceedings of the International Conference on Microelectronic Systems Education (**MSE**)*, pp. 5–8, San Diego, CA, 2011

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[11] Younghyun Kim, Naehyuck Chang, Yanzhi Wang, and Massoud Pedram, **"Maximum Power Transfer Tracking for a Photovoltaic-Supercapacitor Energy System,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 307–312, Austin, TX, 2010

[10] Massoud Pedram, Naehyuck Chang, Younghyun Kim, and Yanzhi Wang, **"Hybrid Electrical Energy Storage Systems,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 363–368, Austin, TX, 2010

[9] Sangyoung Park, Jian-Jia Chen, Donghwa Shin, Younghyun Kim, Chia-Lin Yang, and Naehyuck Chang, **"Dynamic Thermal Management for Networked Embedded Systems under Harsh Ambient Temperature Variation,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 289–294, Austin, TX, 2010

[8] Naehyuck Chang, Jueun Seo, Donghwa Shin, and Younghyun Kim, **"Room-Temperature Fuel Cells and Their Integration into Portable and Embedded Systems,"** in *Proceedings of Asia South Pacific Design Automation Conference (**ASP-DAC**)*, pp. 69–74, Taipei, Taiwan, 2010

[7] Youngjin Cho, Sangyoung Park, and Younghyun Kim, Naehyuck Chang, **"Model Variable Reduction Technique for High-Level Energy Estimation with an Accuracy Constraint,"** in *Proceedings of the International SoC Design Conference (**ISOCC**)*, pp. 476–479, Busan, Korea, 2009
IEEE SSCS Seoul Chapter Award

[6] Youngjin Cho, Younghyun Kim, Sangyoung Park, and Naehyuck Chang, **"System-Level Power Estimation Using an On-Chip Bus Performance Monitoring Unit,"** in *Proceedings of the International Conference on Computer Aided Design (**ICCAD**)*, pp. 149–154, San Jose, CA, 2008
2008 SoC Design Contest Winner & patented

[5] Younghyun Kim, Youngjin Cho, Naehyuck Chang, Chaitali Chakrabarti, and Nam Ik Cho, **"Extending the Lifetime of Media Recorders Constrained by Battery and Flash Memory Size,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 159–164, Bangalore, India, 2008

[4] Youngjin Cho, Younghyun Kim, Yongsoo Joo, Kyungsoo Lee, and Naehyuck Chang, **"Simultaneous Optimization of Battery-Aware Voltage Regulator Scheduling with Dynamic Voltage and Frequency Scaling,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 309–314, Bangalore, India, 2008

[3] Kyungsoo Lee, Youngjin Cho, Jaehyun Park, Younghyun Kim, Jihun Kim, and Naehyuck Chang, **"A Fuel-Cell-Battery Hybrid Platform for Portable Embedded Systems,"** in *Proceedings of the International Federation of Automatic Control World Congress (**IFAC WC**)*, pp. 2188–2193, Seoul, Korea, 2008
Low-Power Design Contest Award at ISLPED 2007 & patented

[2] Youngjin Cho, Younghyun Kim, and Naehyuck Chang, **"PVS: Passive Voltage Scaling for Wireless Sensor Networks,"** in *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*, pp. 135–140, Portland, OR, 2007

[1] Naehyuck Chang and Younghyun Kim, **"Capstone Design Project for a Ubiquitous Sensor Network,"** in *Proceedings of the International Conference on Microelectronic Systems Education (**MSE**)*, pp. 21–22, San Diego, CA, 2007
2006 Capstone Design Contest Runner-Up

PREPRINT

[1] Malin Prematilake, Younghyun Kim, Vijay Raghunathan, Anand Raghunathan, and Niraj K. Jha, **"HW/SW Framework for Improving the Safety of Implantable and Wearable Medical Devices,"** arXiv preprint arXiv:2103.01781, 2021

WORKSHOP PRESENTATIONS

[6] Younghyun Kim, **"Micro- and Nano-Sensors for IoT Security,"** *US-Korea Forum on Nanotechnology: Nanomedicine Focusing on Single Cell Level and Internet of Things (IoT) including Nanosensors*, Goyang, Korea, 2018 **(Invited poster)**
Poster Award 3rd Place

[5] Younghyun Kim, **"Challenges & Solutions in IoT End-Point Security: A Case for Implantable Medical IoT,"** *US-Korea Forum on Nanotechnology: Internet of Things (IoT) including Nanosensors and Neuromorphic Computing*, Falls Church, VA, 2017 **(Invited poster)**

[4] Younghyun Kim, Woo Suk Lee, Vijay Raghunathan, Niraj K. Jha, and Anand Raghunathan, **"Secure Wireless Implantable and Wearable Medical Device,"** *International Conference of the Engineering in Medicine and Biology Society (**EMBC**)*, Minisymposium, Orlando, FL, 2016

[3] Younghyun Kim, **"Design and Runtime Optimizations of Hybrid Energy Storage Systems,"** *Ph.D. Forum at Design Automation Conference (**Ph.D. Forum @DAC**)*, Poster, Austin, TX, 2013

[2] Younghyun Kim, Naehyuck Chang, and Massoud Pedram, **"Adaptive Control of Voltage- and Current-Mode Regulators for Photovoltaic Module Emulators,"** *International Workshop on Adaptive Power Management with Machine Intelligence*, San Jose, CA, 2011

[1] Younghyun Kim, **"Maximum Power Transfer Tracking for a Photovoltaic-Supercapacitor Energy System,"** *ACM Student Research Competition at Design Automation Conference (**SRC @DAC**)*, Poster, Anaheim, CA, 2010

PATENTS

[7] Kyuin Lee, Younghyun Kim, Suman Banerjee, and Neil Klingenmith, **"Pairing Apparatus Using Secret Key Based on Power Line Noise,"** U.S. Patent and Trademark Office Application No. 17/217,630, 2021

[6] Kyuin Lee, Younghyun Kim, Suman Banerjee, and Neil Klingenmith, **"Context-based Pairing Apparatus and Method Thereof,"** U.S. Patent and Trademark Office Application No. 17/217,655, 2021

[5] Younghyun Kim, Yongwoo Lee, Jaehyun Park, and Junhee Ryu, **"Managing Method for Flash Storage and Storage System,"** U.S. Patent and Trademark Office Application No. 17/367,026, 2021

[4] Younghyun Kim, Woo Suk Lee, Vijay Raghunathan, Niraj K. Jha, and Anand Raghunathan, **"Vibration-based Secure Side Channel for Medical Devices,"** U.S. Patent and Trademark Office, US20180043168 A1, 2018

[3] Niraj K. Jha, Younghyun Kim, Vijay Raghunathan, and Anand Raghunathan, **"Safety-Driven Architecture for Implantable and Wearable Medical Devices,"** U.S. Patent and Trademark Office, US20170213002 A1, 2017

[2] Naehyuck Chang, Youngjin Cho, Younghyun Kim, Sangyoung Park, and Jihun Kim, **"Performance Monitoring Unit and Method of Estimating Power Consumption of a System using the Performance Monitoring Unit,"** Korea Intellectual Property Rights Information Service, 1010362750000, 2011

[1] Naehyuck Chang, Youngjin Cho, Kyungsoo Lee, Jaehyun Park, Younghyun Kim, Sangyoung Park, Jihun Kim, and Jueun Seo, **"Apparatus and Method for Supplying Electric Power using Multiple Power Sources,"** Korea Intellectual Property Rights Information Service, 1010362760000, 2011

INVITED TALKS

[35] **University of Minnesota Twin Cities** Sep 2022
Beyond Approximate Computing: Quality-Scalability for Low-Power Embedded Systems and Machine Learning

[34] **University of California Irvine** May 2022
Beyond Approximate Computing: Quality-Scalability for Low-Power Embedded Systems and Machine Learning

[33] **Georgia Institute of Technology** May 2022
Beyond Approximate Computing: Quality-Scalability for Low-Power Embedded Systems and Machine Learning

[32] **Politecnico di Torino** May 2022
Beyond Approximate Computing: Quality-Scalability for Low-Power Embedded Systems and Machine Learning

[31] **Seoul National University** Dec 2021
Beyond Approximate Computing: Quality-Scalability for Low-Power Embedded Systems and Machine Learning

[30] **Inha University** Aug 2021
Usable Security and Privacy for the Internet-of-Things

[29] **Myongji University** Jul 2021
Approximate Hardware Techniques for Energy-Quality Scaling Across the System

[28] **University of Ulsan** Jun 2021
Battery-Supercapacitor Hybrid Electrical Energy Storage Systems for Regulation Services

[27] **Inha University** Jun 2021
Approximate Hardware Techniques for Energy-Quality Scaling Across the System

[26] **Soongsil University** Jun 2021
Usable Security and Privacy for the Internet-of-Things

[25] **Ajou University** Jun 2021
Usable Security and Privacy for the Internet-of-Things

[24] **Device Research Conference (DRC)** Jun 2020
Powering the Internet-of-Things (Short Course)

[23] **IEIE/IEEE International Conference on Electronics, Information, and Communication (ICEIC)** Jan 2020
Approximate Hardware Techniques for Energy-Quality Scaling Across the System

[22] **Ajou University** Jul 2019
Full-System Quality-Configurable Approximate Computing

[21] **Summer Annual Conference of IEIE** Jun 2019
Full-System Quality-Configurable Approximate Computing

[20] **Korea University** Jan 2019
Full-System Quality-Configurable Approximate Computing

[19] **Korean Computer Scientists and Engineers Association in America (KOCSEA) Technical Symposium** Nov 2018
Full-System Quality-Configurable Approximate Computing

[18] **SK hynix America** Oct 2018
Beyond Approximate Computing: Enabling Full-System Energy-Quality Scalability

[17] **Wisconsin Energy Institute (University of Wisconsin–Madison)** Apr 2018
Energy Storage for Computing, Computing for Energy Storage

[16] **IEEE Madison Section Meeting** Jan 2018
Challenges & Solutions in IoT End-Point Security: A Case for Implantable Medical IoT

[15] **Korean Computer Scientists and Engineers Association in America (KOCSEA) Technical Symposium** Nov 2017
Enabling Secure and Low-Power Communication in Implantable Medical Devices

[14] **Dr. Hajar Afsar Lajevardi International Memorial Conference/International Congress of Pediatrics** Oct 2017
Technologies for Secure Implantable Medical Devices **(Plenary Talk)**

[13] **Electronics and Telecommunications Research Institute (ETRI)** Aug 2017
Challenges & Solutions in IoT End-Point Security: A Case for Implantable Medical IoT

[12] **IoT Systems Research Center (University of Wisconsin–Madison)** May 2017
Challenges & Solutions in IoT End-Point Security: A Case for Implantable Medical IoT

[11] **Seoul National University** Sep 2016
Energy-Efficient and Secure Connectivity for Implantable and Wearable Medical Devices

[10] **Pennsylvania State University** Feb 2016
Secure and Energy-Efficient Design for the Internet-of-Things

[9] **University of Wisconsin–Madison** Feb 2016
Secure and Energy-Efficient Design for the Internet-of-Things

[8] **University of Utah** Feb 2016
Secure and Energy-Efficient Design for the Internet-of-Things

[7] **University of Minnesota Twin Cities** Feb 2016
Energy Efficiency and Security in Wireless Internet-of-Things Applications

[6] **Microsoft Research** Nov 2015
Energy Efficiency and Security in Wireless Internet-of-Things Applications

[5] **Pohang University of Science and Technology (POSTECH)** Nov 2015
Energy Efficiency and Security in Wireless Internet-of-Things Applications

[4] **Purdue University** May 2015
Design and Applications of Hybrid Electrical Energy Storage Systems

[3] **George Mason University** May 2015
Design and Applications of Hybrid Electrical Energy Storage Systems

[2] **Hong Kong Science & Technology Parks Corporation** May 2015
Technologies for Secure Medical Devices

[1] **Yeungnam University** Jan 2015
Design and Management of Hybrid Electrical Energy Storage Systems for Regulation Services

DEMOS

[13] **n-hot Weight Quantization and Approximate Multiplication for Low-Power Machine Learning**
Low-Power Design Contest at ISLPED (International Symposium on Low Power Electronics and Design) 2020

[12] **AxSerBus: A Quality-Configurable Approximate Serial Bus for Energy-Efficient Sensing**
Low-Power Design Contest Award
Low-Power Design Contest at ISLPED (International Symposium on Low Power Electronics and Design) 2018

[11] **CamPUF: Physically Unclonable Function based on CMOS Image Sensor Fixed Pattern Noise**
Best Demo Award
SIGDA University Demonstration at DAC (Design Automation Conference) 2018

[10] **TeleProbe: Zero-power Contactless Probing for Implantable Medical Devices**
Low-Power Design Contest Award
Low-Power Design Contest at ISLPED (International Symposium on Low Power Electronics and Design) 2017

[9] **AxSerBus: A Quality-Configurable Approximate Serial Bus for Energy-Efficient Sensing**
SIGDA University Demonstration at DAC (Design Automation Conference) 2017

[8] **Charge Management Optimization of the Hybrid Energy Storage Systems**
SIGDA University Booth at DAC (Design Automation Conference) 2013

[7] **First-Generation Hybrid Electrical Energy Storage System**
Low-Power Design Contest Award
Low-Power Design Contest at ISLPED (International Symposium on Low Power Electronics and Design) 2012

[6] **Hybrid Electrical Energy Storage Systems**
SIGDA University Booth at DAC (Design Automation Conference) 2012

[5] **Dynamic Voltage Scaling of OLED Displays**
SIGDA University Booth at DAC (Design Automation Conference) 2011

[4] **High-Efficient Hybrid Power System for Portable Electronics**
SIGDA University Booth at DAC (Design Automation Conference) 2010

[3] **Open Source Cycle-Accurate System-Level Energy and Timing Simulator Capable of Simulating Bus Cycle Level Behaviors of an AMBA Based System**
SIGDA University Booth at DAC (Design Automation Conference) 2009

[2] **A Fuel-Cell-Battery Hybrid Platform for Portable Embedded Systems**
Low-Power Design Contest Award
Low-Power Design Contest at ISLPED (International Symposium on Low Power Electronics and Design) 2007

[1] **Capstone Design Project for a Ubiquitous Sensor Network**
SIGDA University Booth at DAC (Design Automation Conference) 2007

RESEARCH SUPPORT

CCRI: SpecScape: Enabling a Global Spectrum Observatory through Mobile, Wide-band Spectrum Sensing Kits and a Software Ecosystem
Sponsor: National Science Foundation (NSF)
Role: Co-PI
Award amount: $1,400,000 for UW
Duration: Jan 2023–Dec 2025

Early Prediction of Heat Stress in Dairy Cattle Using Artificial Intelligence for Sustainable Livestock
Sponsor: North Central Region Sustainable Agriculture Research and Education (NCR-SARE)
Role: PI
Award amount: $14,993
Duration: Sep 2022–May 2023

Usable privacy control for real-time eye tracking in AR/VR
Sponsor: Meta (Facebook)
Role: Co-PI
Award amount: $75,000
Duration: Unrestricted

AI Institute: Athena: AI-Driven Next-generation Networks at the Edge
Sponsor: National Science Foundation (NSF)
Role: SP
Award amount: $1,725,000 for UW
Duration: Oct 2021–Sep 2026

Research on Ultra-Low Power AI Devices for Smart Elder-Care System with LiDAR Sensors
Sponsor: Institute for Information & Communication Technology Promotion & Ewha Womans Univ.
Role: PI
Award amount: $90,000
Duration: Sep 2021–Aug 2022

CPS: Medium: Mitigating Heat Stress in Dairy Cattle using a Physiological Sensing-Behavior Analysis-Microclimate Control Loop (2021-67021-34036)
Sponsor: National Science Foundation (NSF) & United States Department of Agriculture (USDA)
Role: PI
Award amount: $935,996
Duration: Jul 2021–Jun 2024

Real-Time Monitoring and Recognition of Dairy Cattle Physiology and Behavior for Improving Productivity and Welfare
Sponsor: UW-Madison OVCRGE
Role: PI
Award amount: $41,878
Duration: Jul 2020–Jun 2021

Research and Education for Intelligent Semiconductor Design for Ultra-Low Power Artificial Intelligence
Sponsor: Institute for Information & Communication Technology Promotion & Chung-Ang University
Role: PI
Award amount: $70,334
Duration: Jun 2020–May 2021

Improving SSD Performance/Lifetime/Energy Efficiency using Approximate Computing and Approximate Storage
Sponsor: SK Hynix
Role: PI
Award amount: $143,606
Duration: Sep 2019–Aug 2020

Safety-Driven Hardware/Software Architectures for Implantable and Wearable Medical Devices
Sponse: UW-Madison OVCRGE
Role: PI
Award amount: $39,137
Duration: Jul 2019–Jun 2020

CAREER: Beyond Approximate Computing: Enabling Full-System Energy-Quality Scalability in Embedded Systems (CNS-1845469)
Sponsor: National Science Foundation (NSF)
Role: PI
Award amount: $542,599
Duration: Jun 2019–May 2024

Quality-Configurable Approximate Serial Bus for Energy-Efficient Sensing
Sponsor: UW-Madison OVCRGE
Role: PI
Award amount: $42,160
Duration: Jul 2018–Jan 2020

ICN-WEN: Collaborative research: Light-Speed Networking (LSN): Refactoring the Wireless Network Stack to Dramatically Reduce Information Response Time (CNS-1719336)
Sponsor: National Science Foundation (NSF) & Intel
Role: Co-PI
Award amount: $1,283,999 for UW
Duration: Sep 2017–Aug 2021

Towards Secure and Reliable Industrial Cyber-Physical Systems for Advanced Manufacturing
Sponsor: UW-Madison Grainger Institue for Engineering
Role: PI
Award amount: $45,000
Duration: Jul 2017–Jun 2020

SERVICE

JOURNAL/TRANSACTION EDITOR

Guest Editor, Elsevier VLSI Journal on Integration, Special Issue on 2018 Asia and South Pacific Design Automation Conference (ASP-DAC) 2018

ORGANIZING COMMITTEE

Publications Chair, International Symposium on Low Power Electronics and Design (ISLPED) 2023

TECHNICAL PROGRAM COMMITTEE

Euromicro Conference on Digital System Design (DSD) Special Session on Security and Privacy of Cyber-Physical Systems (SPCPS) 2020–2022
SigDA Ph.D. Forum at Design Automation Conference (DAC) 2019–2022
Design Automation Conference (DAC) 2018–2020
Design Automation Conference (DAC) Late Breaking Results (LBR) 2020
Symposium on Applied Computing (SAC) 2018–2020, 2022
International Conference on VLSI Design (VLSID) 2017–2019
Asia and South Pacific Design Automation Conference (ASP-DAC) 2017–2019
International Symposium on Low Power Electronics and Design (ISLPED) 2015–2019
Ph.D. Forum at Design Automation and Test in Europe (DATE) 2014–2016

DEPARTMENT SERVICE

ECE Graduate Recruiting, Admissions, and Fellowship (GRAF) Committee 2016–2022
Vice-Chair, 2019; Chair, 2020–2022
ECE Faculty Service Award
ECE Working Group on Undergraduate Diversity 2019
ECE Working Group on 5-Year Funding Guarantees 2018

TEACHING

UNIVERSITY OF WISCONSIN–MADISON

ECE 353 Introduction to Microprocessor Systems Spring 2019, Spring 2020, Spring 2021, Spring 2022, Spring 2023
ECE 551 Digital System Design and Synthesis Fall 2016, Spring 2017, Spring 2018
ECE 751 Embedded Computing Systems Fall 2017, Fall 2018, Fall 2019, Fall 2020, Fall 2021, Fall 2022

MENTORING

ECE Outstanding Graduate Student Mentoring Award

CURRENT PH.D. STUDENTS

Jingjie Li (co-advised by Kassem Fawaz) — Fall 2017–Present

- Cyber-Physical Systems (CPS) Rising Star — 2022
- Norton Labs Graduate Fellowship Finalist — 2022
- Qualcomm Innovation Fellowship Finalist — 2021
- IEEE Micro Top Pick — 2021
- Foxconn Smart Cities-Smart Futures Competition Final Winner — 2020
- Foxconn Smart Cities-Smart Futures Competition Final Winner — 2019
- ECE Chancellor's Opportunity Fellowship — 2019
- Qualcomm Innovation Fellowship Finalist — 2019
- ISLPED Low-Power Design Contest Award — 2018
- DAC A. Richard Newton Young Student Fellowship — 2018

Tianen Chen — Fall 2018–Present

- IWSL Programming Contest 1st Place — 2021
- NSF Graduate Research Fellowship — 2020
- Qualcomm Innovation Fellowship Finalist — 2020
- Intel Distinguished Invention Award — 2020
- Foxconn Smart Cities-Smart Futures Competition Final Winner — 2020
- Foxconn Smart Cities-Smart Futures Competition Final Winner — 2019
- DAC A. Richard Newton Young Student Fellowship — 2019
- ECE Wisconsin Distinguished Graduate Fellowship — 2018

Hien Vu — Fall 2021–Present

- DAC Young Fellowship — 2021

Farheen Asif — Fall 2022–Present

- ECE Chancellor's Opportunity Fellowship — 2022

CURRENT M.S. STUDENTS

Omkar Chandrakant Prabhune — Fall 2021–Present

- Adobe Intern Project Expo 2022 Winner (Digital Media Organization) — 2022
- NCR-SARE Graduate Student Grant — 2022
- DAC Young Fellowship — 2021

PAST GRADUATE STUDENTS

Kyuin Lee, Ph.D. — Fall 2017–Spring 2022

Assistant Professor, Department of Information and Logistics Technology, University of Houston

- Cyber-Physical Systems (CPS) Rising Star — 2022
- DAC A. Richard Newton Young Student Fellowship — 2019
- DAC University Demo Best Demonstration Award — 2018

Setareh Behroozi, Ph.D. — Spring 2017–Summer 2022

Teaching Faculty, Department of Electrical and Computer Engineering, UW-Madison

- Qualcomm Innovation Fellowship Finalist — 2020
- Foxconn Smart Cities-Smart Futures Competition Final Winner — 2020
- Foxconn Smart Cities-Smart Futures Competition Final Winner — 2019
- ISLPED Low-Power Design Contest Award — 2018
- Grace Hopper Celebration (GHC) Student Scholarship — 2018
- ECE Chancellor's Opportunity Fellowship — 2018
- DAC A. Richard Newton Young Student Fellowship — 2017

John Rupel, M.S. — Fall 2019–Spring 2021

Embedded Electrical (FPGA) Engineer, Genus PLC

- Foxconn Smart Cities-Smart Futures Competition Final Winner — 2020
- DAC Young Student Fellowship — 2020

Aishwarya Lekshmi Chithra, M.S. — Spring 2021–Fall 2022

Senior Design Engineer, Qualcomm

- Grace Hopper Celebration (GHC) Student Scholarship — 2022
- DAC Young Fellowship — 2021

CURRENT AND PAST UNDERGRADUATE STUDENTS

Lujain Al Jumah	Fall 2022
Lia Sudjana	Spring–Fall 2022
Alexander Ulate	Spring 2022–Present
Hilldale Undergraduate Research Fellowship	2022
Eric Dubberstein	Spring 2022
Walt Boettge	Fall 2021–Spring 2022
Victoria Schrimpf	Fall 2021–Spring 2022
Yao Yao	Fall 2019–Fall 2020
John Wang	Fall 2020
Taylor B. Kemp	Fall 2019–Spring 2020
Foxconn Smart Cities-Smart Futures Competition Final Winner	2020
DAC Young Student Fellowship	2020
Dong He	Fall 2019
Olivia Li	Fall 2018–Spring 2019
Lily Ong	Spring 2019
Jackson Melchert	Summer 2018–Fall 2018
Jesse Pakula	Fall 2018
Anapat Chairithinugull	Summer 2018
Fang Qin	Summer 2017
Edgar Gomez	Summer 2017