



Volume 21, Issue 3
Spring '21

CECS eNEWS



Center for Embedded and Cyber-physical Systems, University of California, Irvine

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Facebook Awards Research Gift to Dutt and Maity



Facebook awarded a \$80,000 research gift to Professor Dutt and PhD student Biswadip Maity on studying hyperscale datacenter platform power management for applying lessons learned from their earlier research on mobile/embedded energy-efficient and power-aware runtime management policies to hyperscale datacenters. Facebook operates datacenters at unprecedented levels of system complexity and scale, creating critical power management challenges for hyperscale datacenter computing platforms. Facebook saw an opportunity to leverage prior successes from Professor Dutt's research group ([DRG](#)) on self-aware energy-efficient and power-aware runtime management of mobile and embedded systems.

Maity previously interned with Facebook in Summer 2020, and is currently working on developing adaptive, reflective energy-efficient resource managers for emerging data-centric applications. "I am extremely grateful for this research gift, and I'm excited to make Facebook datacenters more energy-efficient for billions of everyday users," Maity said. Maity plans to pursue a career in research after his planned graduation in 2023.

Congratulations to both!

Elmalaki Receives NSF CRII Grant



Salma Elmalaki, Assistant Professor of Teaching in Electrical Engineering and Computer Science, has received the National Science Foundation Computer and Information Science and Engineering (CISE) Research Initiation Initiative (CRII) grant. This award is given to new professors to encourage independent research. Prof. Elmalaki received \$175,000 for her research “Society-in-the-Loop Personalized Computing”.

Imani Joins CECS

Mohsen Imani is an Assistant Professor in the Department of Computer Science at UC Irvine. He received his Ph.D. from the Department of Computer Science and Engineering at UC San Diego. Prof. Imani’s research has been recognized with several awards, including the Bernard and Sophia Gordon Engineering Leadership Award and the Powell Fellowship Award. He has also received the Best Doctorate Research from UCSD and several best paper nomination awards at multiple top conferences including Design Automation and Test in Europe (DATE) in 2020 and International Conference on Computer-Aided Design (ICCAD) in 2020. Welcome to CECS Prof. Imani!



Student Profile

New Student Profile: Vivek Govindasamy



Vivek Govindasamy is a first-year MS/PhD student in the Department of Electrical Engineering and Computer Science with a specialization in embedded systems. Prior to joining UCI he completed his Bachelor of Technology degree in Electronics and Communication Engineering at Vellore Institute of Technology, India.

During his 2nd year of undergraduate degree in 2018, he had an internship at Asea Brown Boveri (ABB) where he worked on various control systems. He was also awarded the Indian Academy of Sciences Summer Research Fellowships Program(IAS SRFP). In the following year 2019 he had another internship at the Indian Institute of Science(IISc) in the electrical engineering department where he created a synthesizable JPEG image encoder.

Currently he is working under the guidance of Professor Doemer in the CECS laboratory. He is exploring the architectures of multi-core computers and how certain SystemC models can be mapped on them. Using this mapping on different architectures, he hopes to find out the architecture that is faster and more efficient compared to the others. He has also been a teaching assistant in 2021 for the graduate level course in embedded software.

Publications

Publications

The following papers were published by CECS affiliates from April 2021 through June 2021 (and unreported papers from previous eNews).

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Sreenitha Kasarapu, Rakibul Hassan, Setareh Rafatirad, Houman Homayoun, Sai Manoj Pudukotai Dinakar-
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Hin Wai Lui, Emre Neftci: **Hessian Aware Quantization of Spiking Neural Networks**. CoRR abs/2104.14117, April, 2021

Nick Alonso, Emre Neftci: **Tightening the Biological Constraints on Gradient-Based Predictive Coding**. CoRR abs/2104.15137, April, 2021

Saideep Tiku, Prathmesh Kale, Sudeep Pasricha: **QuickLoc: Adaptive Deep-Learning for Fast Indoor Localization with Mobile Devices**. CoRR abs/2104.07521, April, 2021

Ulices Santa Cruz, James Ferlez, Yasser Shoukry: **Safe-by-Repair: A Convex Optimization Approach for Repairing Unsafe Two-Level Lattice Neural Network Controllers**. CoRR abs/2104.02788, April, 2021

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