Department of Electrical Engineering
香港城市大學
City University of Hong Kong

UNIVERSITÄT HEIDELBERG
ZUKUNFT SEIT 1386

CityU Architecture Lab for Arithmetic and Security (CALAS)
Seminar Series

Emerging Computing Systems - Circuits, Architectures, and Smart Healthcare Applications

Prof. Nima TaheriNejad, Professor
Heidelberg University, Germany

Abstract:

Traditional computing systems face major hurdles on their performance improvement path. At the same time, demand for better performance keeps increasing and diversifying its profile due to emerging applications, such as smart healthcare. The problems is compounded considering the environmental and energy crisis we face, where computing systems play a larder role everyday. In this environment, we are in urgent need of novel computing solutions, from basic paradigms to end applications. In this talk, we will review some of our work to address these challenges. In particular, we talk about how to improve the performance of fundamental computing solutions using approximate computing and in-memory computing using memristors as an emerging memory technology. We also take a look into improving smart health applications, especially wearable monitoring, and improving their performance and efficiency.

Biography:

Nima Taherinejad received his Ph.D. degree in electrical and computer engineering from The University of British Columbia (UBC), Vancouver, Canada, in 2015. He is currently a full professor at Heidelberg University, Heidelberg, Germany. His areas of work include computer architecture (especially memory-centric and approximate computing), cyber-physical and embedded systems, memristor-based circuit and systems, and smart health-care. He has published three books, five patents, and more than 100 articles. Prof. Taherinejad has served as an editor of many journals, an organizer and a chair of various conferences and workshops. He has received several awards and scholarships from universities, conferences, and competitions he has attended. This includes the Best University Booth award at DATE 2021, First prize in the 15th Digilent Design Contest (2019) and in the Open-Source Hardware Competition at Eurolab4HPC (2019) as well as Best Teacher and Best Course awards at TU Wien (2020). Since 2023, he has been listed among the world's top 2% scientists in the Stanford-Elsevier report.

21 Nov 2024 (Thur); 3:00pm - 5:00pm HKT; P1402; https://cityu.zoom.us/j/96742093029