



THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering
Seminar

Turbocharging Serverless Research with vHive

by

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Date : 5 May 2023 (Friday)

Time : 11:00am to 12:00nn

Venue : Room801, Ho Sin Hang Engineering Building, CUHK

Abstract

Serverless clouds boost developer productivity by taking over cloud infrastructure management, allowing the developers to focus on their service's business logic. This labor division opens opportunities for systems researchers to innovate in serverless computing. However, leading serverless providers rely on proprietary infrastructure ill-suited for systems research in academia. In this talk, I will introduce vHive, a full-stack open-source ecosystem for serverless clouds benchmarking, experimentation, and innovation; which has been in use in 24+ universities and 6+ companies worldwide. To make the case for vHive's utility, I will discuss our latest works in software-hardware co-design for fast and resource-efficient serverless systems, including the innovations we propose in cold-start optimisation of serverless functions, hardware support for serverless functions colocation, and the exploration methodology of cluster-level scheduling policies in a small-scale, research setting.

Biography

Dmitrii is an Assistant Professor at NTU Singapore. Previously, he was a Postdoctoral Researcher at ETH Zurich. Dmitrii received a Ph.D. from the University of Edinburgh and BSc and MSc degrees from the Moscow Institute of Physics and Technology. Dmitrii's research interests lie at the intersection of Computer Systems and Architecture with a current focus on support for cloud and serverless computing.

**** ALL ARE WELCOME ****