

Jack Kosaian

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Education

Carnegie Mellon University

Ph.D. in Computer Science

Advisor: Rashmi Vinayak

Thesis topic: Resource-efficient resilience for machine learning systems

Aug. 2017 - Present

University of Michigan, Ann Arbor

B.S.E. in Computer Science & Engineering

Sept. 2013 - Dec. 2016

Awards

NSF Graduate Research Fellowship (2017)

Angell Scholar (2015)

Branstrom Prize (2014)

Publications

Conference

Parity Models: Erasure-Coded Resilience for Prediction Serving Systems

Jack Kosaian, K. V. Rashmi, Shivaram Venkataraman

ACM SOSP 2019

Vantage: Optimizing Video Upload for Time-shifted Viewing of Social Live Streams

Devdeep Ray, Jack Kosaian, K. V. Rashmi, Srinivasan Seshan

ACM SIGCOMM 2019

EC-Cache: Load-Balanced, Low-Latency Cluster Caching with Online Erasure Coding

K. V. Rashmi, Mosharaf Chowdhury, Jack Kosaian, Ion Stoica, and Kannan Ramchandran

USENIX OSDI 2016

Journal

Learning-Based Coded Computation

Jack Kosaian, K. V. Rashmi, Shivaram Venkataraman

IEEE Journal on Selected Areas in Information Theory, 2020

Talks

Parity Models: Erasure-Coded Resilience for Prediction Serving Systems

- ACM Symposium on Operating Systems Principles (SOSP 19), October 2019
- Foundations of Cloud and ML Infrastructure (Guest Lecture), October 2019

Resilient ML Inference via Erasure Coding

- Parallel Data Lab Retreat, November 2019
- Parallel Data Lab Retreat, October 2018

Teaching Experience

CMU 15-440: Distributed Systems

Head Teaching Assistant

Spring 2020

UofM EECS 370: Introduction to Computer Organization

Teaching Assistant

Fall 2015, Winter 2016

Outreach

CMU SCS Creative Technology Nights

- Assist in teaching STEM concepts to middle school girls in the Pittsburgh area

Industry Experience

Microsoft Research

May 2019 - Aug. 2019

Research Intern

Redmond, WA

Mentor: Amar Phanishayee

- Researched strategies to improve the performance of in-house DNNs on various accelerators

Google

May 2017 - July 2017

Software Engineering Intern

Seattle, WA

BigQuery team

- Analyzed performance and scalability bottlenecks of high-throughput read/write API

Google

May 2016 - Aug. 2016

Software Engineering Intern

Mountain View, CA

gVisor team

- Explored hardware virtualization extensions for efficient sandboxing

Epic Systems

May 2015 - Aug. 2015

Software Development Intern

Madison, WI

- Developed dashboard for physicians to explore changes in patient health