

JACK KOSAIA

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EDUCATION

Carnegie Mellon University

Ph.D. in Computer Science

Advisor: Rashmi Vinayak

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)

RESEARCH

Erasure codes have found widespread use in storage and communication as a *resource-efficient* means of *proactively* mitigating slowdowns and failures. My current research focus is in bringing these benefits of erasure codes to mitigating unavailability in new systems and applications, such as online machine learning inference. Toward this goal, I leverage decades of progress in information theory coupled with recent advancements in machine learning in order to design efficient systems solutions that are robust to a wide-variety of applications.

PREPRINTS

Learning a Code: Machine Learning for Approximate Non-Linear Coded Computation

Jack Kosaian, K. V. Rashmi, Shivaram Venkataraman

arXiv:1806.01259

PUBLICATIONS

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

INDUSTRY EXPERIENCE

Google BigQuery

Software Engineering Intern

- Analyzed performance and scalability bottlenecks of high-throughput read/write API
- Proposed and prototyped a service-throttling mechanism for read API

May 2017 - July 2017

Seattle, WA

Google Technical Infrastructure

Software Engineering Intern

- Added support for hardware virtualization mechanisms to internal sandboxing platform
- Designed a memory allocator to reduce fragmentation for sandbox supervisor

May 2016 - Aug. 2016

Mountain View, CA

Epic Systems

Software Development Intern

- Developed dashboard for physicians to perform exploratory queries about changes in patient health

May 2015 - Aug. 2015

Madison, WI