Chinmay Kulkarni (www.chinmayk.net)

Education

University of Utah ..... Salt Lake City, USA
Doctor of Philosophy in Computer Science, May 2021
Dissertation: Reconfiguration and Extensibility for Low-Latency Key-Value Stores
Advised by Prof. Ryan Stutsman

Indian Institute of Technology Bombay ..... Bombay, India
Master of Technology in Computer Science, June 2016
Thesis: Mitigating Busy Waiting in SMP Virtual Machines
Advised by Prof. Purushottam Kulkarni

National Institute of Technology ..... Surathkal, India
Bachelor of Technology in Electronics and Communication, May 2013

Publications

Achieving High Throughput and Elasticity in a Larger-than-Memory Store **VLDB 2021**
Chinmay Kulkarni, Badrish Chandramouli, and Ryan Stutsman
Collaboration with Microsoft

NrOS: Effective Replication and Sharing in an Operating System **OSDI 2021**
Ankit Bhardwaj, **Chinmay Kulkarni**, Reto Achermann, Irina Calciu, Sanidhya Kashyap, Ryan Stutsman, Amy Tai, and Gerd Zellweger
Collaboration with VMware

Adaptive Placement for In-memory Storage Functions **ATC 2020**
Ankit Bhardwaj, **Chinmay Kulkarni**, and Ryan Stutsman

Splinter: Bare-Metal Extensions for Multi-Tenant Low-Latency Storage **OSDI 2018**
Chinmay Kulkarni, Sara Moore, Mazhar Naqvi, Tian Zhang, Robert Ricci, and Ryan Stutsman

Rocksteady: Fast Migration for Low-latency In-memory Storage **SOSP 2017**
Chinmay Kulkarni, Aniraj Kesavan, Tian Zhang, Robert Ricci, and Ryan Stutsman

Open Source

microsoft/FASTER **vmware/node-replication** **utah-scs/splinter**

Experience

University of Utah ..... Salt Lake City, USA
Research Assistant advised by Ryan Stutsman, Fall 2016 - Spring 2021
Worked on multi-tenant low-latency stores that can be extended at runtime using type- and memory-safe functions, and fast, low impact data migration protocols.

Google ..... Sunnyvale, USA
Research Intern hosted by Larry Kai, Summer 2020
Worked on defining and measuring the availability of Google services. Designed and built a dashboard that Google engineers can use to visualize and monitor the availability of their service.

VMware ..... Palo Alto, USA
Research Intern hosted by Gerd Zellweger, Summer 2019
Designed, built, tested and evaluated a Rust library that constructs a highly scalable, linearizable, concurrent data structure from a single threaded implementation.

Microsoft ..... Redmond, USA
Research Intern hosted by Badrish Chandramouli, Summer 2018
Worked on an RPC layer and scale out protocol for FASTER, a key-value store that scales linearly across cores to service 160 million updates per second.

Talks and Posters

Reconfiguration and Extensibility for Low-Latency Key-Value Stores
PhD Defense, 2021, University of Utah, Salt Lake City, Utah, USA

Scaling an Operating System to Many Cores Using a System Call Log
SOSP 2019 (Poster), Huntsville, Ontario, Canada

Raising The Efficiency of μStorage
Google PhD Fellowship Summit 2019, Mountain View, California, USA

Splinter: Bare-Metal Extensions for Multi-Tenant Low-Latency Storage
OSDI 2018, Carlsbad, California, USA

Rocksteady: Fast Migration for Low-latency In-memory Storage
SOSP 2017, Shanghai, China

SERVICE — **JSys** (Student Editor, 2021), **HotCloud '20** (External Reviewer)

AWARDS — **Google PhD Fellowship**, *Systems and Networking, 2019*

SKILLS — Rust, Python, R, C++, Kernel-bypass networking, Lock-free programming