EMERSON FORD

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Fifth-year CS student at the University of Utah interested in infrastructure and low-level systems.

EDUCATION

University of Utah

Double BS in Honors Computer Science & Mathematics, Statistics Emphasis

May 2016 – May 2021 | GPA: 3.77 / 4.0

Relevant Course Work: Adv. Operating Systems, Programming Languages, Computer Networks, Algorithms, Models of Computation, Intro to Data Science, Parallel Computing, Applied Statistics, Cryptography and Codes, Distributed Systems* (*currently enrolled)

Skills: Python 3, C++, C, MySQL, LaTeX, Ruby, Rust, Java, Bash, Linux, Git, Mercurial, Docker, Kubernetes, Puppet, AWS S3 & Lightsail, Node.js, Thrift, RPC, asynchronous programming, stateless services, networking

EXPERIENCE

University of Utah – Center for High Performance Computing

Student Intern | Salt Lake City | May 2017 – Present

- Developed a Puppet module to fully instantiate new Kubernetes clusters on demand.
- Spun up and manage a Foreman environment to automate host provisioning and management on the SLATE research project.
- Prototyped OpenStack, Emulab, and OpenNebula for the development of a HPCaaS environment.

Facebook

Production Engineer Intern | Seattle | Summer 2018 & Summer 2019 & Summer 2020

- Working with the Messenger Infra team to improve the efficiency of Iris.
- Developed two services from scratch in Python 3 to automate stress testing of storage nodes for Storage Platform and to manage the lifecycles for all hosts powering Facebook's Scuba service.
- Helped and mentored other interns in learning Facebook's tools and infrastructure.

LEADERSHIP

HackTheU | Chief Director | May 2017 – December 2019

Managed a team of 20 to host Utah's largest hackathon with over 300 attendees in 2019 at the University of Utah. Administrated the non-profit status of the organization. Now serving as an advisory director.

School of Computing Undergraduate Advisory Committee | Member | May 2017 – Present

Host student events and serve as the student voice for the School of Computing.

PROJECTS / ACTIVITIES

- Reproduced remote cache hit/miss timing differences over RDMA as detailed in the NetCAT paper.
- Developed a Lisp-like language with parsing, types, and classes in Racket for Programming Languages.
- Linux character device kernel modules and a custom sbrk implementation in xv6 for Operating Systems.
- Basic reliable transport protocol, load balancer, and malware filtering proxy for Computer Networks.
- Second place winner of the 2019 Lucid Software Capture the Flag competition.