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

Thesis Topic: RDMA Networking in HPC Containers

Relevant Course Work: Advanced Operating Systems, Programming Languages, Computer Networks, Parallel Computing, Intro to Data Science, Applied Statistics, Cryptography, Distributed Systems*, Graduate Algorithms* (*currently enrolled)

Skills: Python 3, Go, C++, C, MySQL, LaTeX, Ruby, Rust, Java, Bash, Linux, Git, Mercurial, Docker, Kubernetes, Ansible, Puppet, AWS, Node.js, Thrift, RPC, Terraform, asynchronous programming, 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 Kubernetes clusters for the SLATE research project.
- Deployed and manage a Foreman/Puppet/Ansible stack to automate host provisioning and management.
- Prototyped OpenStack, Emulab, and OpenNebula for the development of a HPCaaS environment.

Facebook

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

- Worked with the Messenger Infra team to add flow control functionality to a C++ RPC proxy for Iris.
- Developed two services from scratch in Python 3 to automate stress testing of storage nodes for the Storage Platform team and to manage the lifecycles for all hosts powering Scuba for the Monitoring team.
- Assisted and mentored other interns in learning Facebook's tools and infrastructure.

LEADERSHIP

HackTheU

Chief Director | May 2017 – December 2019 / Advisory Director | December 2019 – Present

- Managed a team of 20 to host Utah's largest hackathon with over 300 attendees in 2019.
- Automated hackathon infrastructure deployment on AWS with Terraform, Ansible, and Github Actions.

School of Computing Undergraduate Advisory Committee

Member | May 2017 – October 2020 / Chair | October 2020 – Present

- Host events for students and act as the student-department liaison 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.
- Implemented MapReduce and Raft in Go for Distributed Systems.
- Second place winner of the 2019 Lucid Software Capture the Flag competition.