

Aneesh Durg

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WORK EXPERIENCE

Member of Technical Staff

Aug 2019-Present

Qumulo Inc. — Seattle, WA

- Designed a solution for eliminating server downtime during upgrades in a team of four
 - Used containerization to avoid potentially slow boot times
 - Used **dbus** to allow processes to break out of a container
- Helped implement the following **SMB** features
 - SMB 3.1.1 negotiation, Server-side copy, Encryption
- Refactored the **SMB** implementation to increase efficiency SMB 3.1 requests.
 - Implemented smart pointer-esque objects in C for reduced memory usage and improved safety
- Modernized python code by adding types via **mypy**

Systems Programming Course Lead

Jan 2017-May 2019

CS241 @ UIUC — Urbana, IL

- Development lead for assignments, Lab/Office hours assistant, Honors mentor.
- Redesigned assignments to be more engaging
 - Created a FUSE-esque library that redirects linux filesystem calls, but doesn't leave stale mounts on crashes, allowing students to attempt building a file-backed fs (and easily debug it).
 - Introduced a "implement a container" assignment.
- Mentored honors students to complete projects exploring areas such as distributed systems, compilers and linux kernel development.

Software Engineering Intern

May 2018-Aug 2018

Qumulo Inc. — Seattle, WA

- Used **linux namespaces** to speed up testing time by up to 5x.
- Designed and developed a IP failover in **AWS**.

PROJECTS

Ephemeral

Typescript/React

<http://aneeshdurg.me/ephemeral>

- A distributed, peer-to-peer, twitter-inspired social media platform
- Uses **RSA** encryption and signing to prove identity

What Is a Filesystem?

Javascript

http://aneeshdurg.me/what_is_a_filesystem

- An online interactive book/vizualization for students learning filesystem concepts.
- Implements a ext2-esque filesystem with animations to illustrate how a disk accesses occur.
- Features a terminal simulator which implements some standard GNU/Linux utilities.

CameraTheremin

JavaScript

<https://aneeshdurg.me/CameraTheremin>

- In-browser webcam gesture-based theremin (a musical instrument)
- Implemented all image processing functions required in Javascript/**WebGL**.

EDUCATION

University of Illinois at Urbana-Champaign

Aug 2015-May 2019

Recieved BS in Computer Science & Mathematics with **High Distinction**

PROGRAMMING LANGUAGES

C, PYTHON, TYPESCRIPT, JAVASCRIPT, RUST, BASH, C++ Go, D, HASKELL, GLSL

LIBRARIES/ FRAMEWORKS

ML/AI:

CAFFE, OPENCV, PYTORCH, TENSORFLOW

Web Backend:

FLASK, TORNADO, DJANGO, NODE.JS

Web Frontend:

REACT, PEERJS, WebGL, D3.JS, JQUERY

Containers/OS:

D-BUS, DOCKER, LXC, SYSTEMD, SYSTEMD-NSPAWN