Aneesh Durg

Email: aneeshdurg17@gmail.com | Website: `aneeshdurg.me` | Github: `github.com/aneeshdurg`

WORK EXPERIENCE

Software Engineer — Feb 2021-Present
KatanaGraph Inc. — Austin, TX

- Implementing and optimizing graph querying features and support for the **cypher** query language.

Member of Technical Staff — Aug 2019-Feb 2021
Qumulo Inc. — Seattle, WA

- Extended platform support for two new hardware configurations
- Designed a solution for eliminating server downtime during upgrades from 5 minutes to under 30 seconds 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 reduce memory usage.
- Helped lead migration of **python2** code to **python3**
  - Modernized python code by adding types via **mypy**
  - Proposed and implemented a python dependency verification tool for customer and cloud deployments

Systems Programming Course Lead — Jan 2017-May 2019
CS241 @ UIUC — Urbana, IL

- Development lead for assignments, Lab/Office hours assistant, Honors mentor.
- Designed and created assignments (and associated infrastructure) to allow students to implement and explore concepts such as filesystems, containers, and cooperative scheduling.
- Mentored honors students to complete projects exploring areas such as distributed systems, compilers and linux kernel development.

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, C++, Python, Rust, TypeScript, JavaScript, Bash, 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, cgroups, sysfs, systemd, Docker, lxc, systemd-nspawn