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ROHAN NAIR

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EMPLOYMENT

Graduate Researcher — **University of Virginia** — **Nov 2020 - Present**

Worldly Semantics of Code

- Working alongside Dr. Kevin Sullivan and Dr. Sebastian Elbaum on NSF-funded project on ensuring consistency of code with real-world physics using compilation, static analysis, formal methods, and robotics
- Undertaking experimentation to check for physical type errors in large bodies of C++/ROS code

HPC Software Engineer, Intern — **Intel Corporation** — **Jan 2020 – July 2020**

HaaS (HPC as a Service)

- Tested and added endpoints to Flask application to determine utilization and storage information for high-performance computing (HPC) machines
- Created dashboards and visualizations using Kibana and custom filters to display various telemetry data
- Configured Grok and JSON filters in Logstash for parsing logs and imported data into Elasticsearch

Software Engineer, Intern — **Fungible Inc.** — **April 2019 – Aug 2019**

Fungible is a startup based in Santa Clara, CA that empowers data-centric computing

- Worked on QA infrastructure for performing large-scale tests using Angular, Django, Python, and PostgreSQL
- Built internal search application used by over 100 engineers with Bootstrap and Angular router navigation
- Visualized and analyzed performance data using Highcharts and executed dashboard feature improvements

EDUCATION

Charlottesville, VA — **University of Virginia** — **Aug 2020 – May 2022**

- ***M.S in Computer Science.*** GPA: 4.0
- Honors & Awards: Department of Computer Science Academic Excellence Fellowship
- Coursework: Machine Learning, Computer Vision, NLP, Software Logic, Cloud Computing

Santa Clara, CA — **Santa Clara University** — **Sep 2016 – March 2020**

- ***B.S in Computer Science, Minor in Mathematics.*** GPA: 3.6
- Honors & Awards: Dean's List (2016 – 2018), Distinguished First-Year Student
- Coursework: Data Science, Applied ML, Cryptography, Computer Security, OS, Computer Architecture

TECHNICAL EXPERIENCE

- **Image Caption Generator:** Created, ran, and deployed modular open captioning system using PyTorch. Encoded images using CNN and passed to RNN to construct sentences in auto-regressive mode.
- **ML Classification Algorithms:** Implemented logistic regression, KNN, random forests, and SVM from scratch in Python. Explored bias-variance tradeoff, over/underfitting, precision, recall, F-1 measure, and AUC
- **N-Body Simulation:** Worked with Dr. Norman Paris to build an n-body simulation of Newton's Universal Law of Gravitation with JavaScript. Determined acceleration of particles using Euler and RK-4 integration methods.
- **Pipelined CPU:** Designed and tested structural model of pipelined CPU with 13 instructions using Verilog HDL

ADDITIONAL EXPERIENCE AND AWARDS

- **Eagle Scout, BSA Troop 125:** Held a variety of leadership roles within the troop. For my eagle project, I designed and delegated construction of instrument cabinets to 20+ scouts for my high school marching band.
- **IT Student Assistant:** Trained professors and students in videoconferencing technology, conducted inventory, and was responsible for troubleshooting A/V equipment.

Languages and Technologies

- Python, PyTorch, C/C++, JavaScript, TypeScript, Angular, HTML, CSS, Django, Flask, SQL, Verilog, Assembly
- Git, Bash, Unix, REST, JSON