An Nguyen Tran

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EDUCATION

California Institute of Technology (Caltech) 2019 - 2023
Bachelor of Computer Science – 4.15 / 4.3 GPA *Pasadena, CA*

- *Relevant Coursework:* Operating Systems, Computing Systems, Software Engineering, Cryptography, Machine Learning, Algorithms, Data Structures, Data Mining, Graphics Laboratory, Complexity Theory

SKILLS

Languages	C, C++, C#, Rust, Python, Java, Kotlin, OCaml, JavaScript, TypeScript, HTML, CSS
Tools & Frameworks	Node.JS, Qt, PyTorch, TensorFlow, PostgreSQL, numpy, pandas, AWS Lambda, Docker
Hardware	Abel HDL, x86_64 + ARM64 Assembly, Raspberry Pi, USB 3380

EXPERIENCE

Pure Storage August 2023 – Present
Software Engineer *Santa Clara, CA*

- Improved performance of volume diffing algorithm by 40-50%, and memory footprint by 20%.
- Worked on the ActiveCluster team to maintain features and triage escalations.
- Developed prototype of next-generation data replication features.

Green Hills Software June 2022 – August 2022
Software Engineer Intern *Santa Barbara, CA*

- Worked with secure laptop group to improve reliability and security of hypervisor's USB stacsk.
- Created embedded testing device firmware using mass storage protocol and USB3380 controller.
- Developed non-compliant SCSI implementations to test USB implementation robustness.
- Wrote hypervisor XHCi tests for USB mass storage devices on non-compliant SCSI implementations.

SprintRay Incorporated January 2021 – August 2021
Software Engineer Intern *Los Angeles, CA*

- Developed data exporting tool for the administrator portal's DynamoDB backend.
- Implemented a cloud 3D print-to-hardware prototype, allowing users to upload and instantly print models.
- Deployed plane cutting and mesh repair algorithms on AWS Lambda to 10000+ dental professionals.

Caltech March 2021 – June 2023
Head Teaching Assistant *Pasadena, CA*

- Head TA for CS24 (Computing Systems, Fall 2021 + 2022) and TA for CS124 (Operating Systems, Spring 2023).
- TA for CS3 (Software Design, Spring 2021 + 2022) and developed ARM64 BASIC compiler assignment for the systems course.
- Held office hours and lecture assistance on the C language, systems architecture, and programming.

PROJECTS

COVID-19 Policy Prediction March 2021 – June 2021

- Analyzed data from the CDC, CDPH, and KFF to extrapolate COVID-19 county and state level policies, demographics, and infection.
- Developed a light gradient boosting model to investigate the effects of government regulations of businesses on pandemic transmission rates, mortality rates, and hospitalization.

PUBLICATIONS

An Open, Multi-Platform Software Architecture for Online Education in the Metaverse (Co-Author)
Santiago Lombeyda, et al. (DOI: 10.1145/3564533) June 2020 – August 2020
Published to Association for Computing Machinery (ACM), presented at the Web3D 2022 conference.