An Nguyen Tran

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EDUCATION

California Institute of Technology (Caltech)
Bachelor of Science in Computer Science • Class of 2023 • GPA 4.15 / 4.00

General CS
Programming Methods
Software Engineering
Computing Systems
Decidability and Tractability
Programming Fundamentals

Machine Learning
Learning Systems
Data Mining

Graphics Programming
Intro Graphics Laboratory

Institute Core
Calculus: Single and Multi-Variable
Linear Algebra: Analytical
Classical Mechanics and Electromagnetism
Differential Equations: Practical
Probability and Statistics

SKILLS

Programming Languages
C, C++, Rust, Python, Java, Kotlin

Front-End Development
Node.js, JavaScript/TypeScript, HTML, SCSS

Tools & Frameworks
Unix, Git, TensorFlow, Webpack, ReactJS

EXPERIENCE

Software Engineer Intern
SprintRay Incorporated **January 2021 – Present**
• Incoming SWE intern at SprintRay Inc., a company focusing on end-to-end 3D printing ecosystems for dental professionals.

Summer Undergraduate Research Fellow
Caltech: Powell-Booth Laboratory for Computational Science **June 2020 – August 2020**
• Co-designed a new full-stack WebSocket protocol to replace the group's previous prototype, achieving performance increases.
• Created a new backend for the group's prototype of a remote educational platform with documentation, ensuring future maintainability.
• Created a multiplatform web frontend built using TypeScript, Webpack, and ReactJS.
• Developed the backend using Rust and Actix and deployed on Amazon Web Services and the private university cluster.

PROJECTS

Celltomata
Hacktech Hackathon **March 2020**
• Implemented the backend for a multiplayer combination of Conway's Game of Life and .io games.
• Created and developed the WebSocket backend and game logic in Rust, and frontend interface with Node.JS and HTML/CSS/JS.

Lovecraft-LSTM
github.com/Avarel/Lovecraft-LSTM **January 2020**
• Developed an LSTM model using Python and TensorFlow to learn and generate texts from 18 Lovecraft sample texts.
• Computed, trained, and used the model online using 60 TPU/GPU cloud hours of Google Collaboratory.

Octave (Formerly Gnar)
github.com/Stardust-Discord/Octave **September 2016 – August 2019**
• Wrote an open-source Discord bot in Java and Kotlin, using JDA and Lavaplayer, serving over **100,000+** Discord servers.
• Handled and streamed OPUS sound packets from 5 video platforms to Discord voice channels to deliver a premium music experience.

EXTRACURRICULARS

Caltech Robotics Club
California Institute of Technology • Software Member **October 2019 – Present**
• Implemented robotic submarine detectors using a framework built on ROS Melodic, PyTorch, and YOLOv3.
• Collaborated with the mechanical, electrical, and business team in the CRT club.

ACM-ICPC Competition
Riverside Community College • Competitor **November 2019 – Present**
• Competed in the regionals ICPC programming competition in a team of three students.
• Placed 31 out of 88 on freshman year.