

Thai Villaluna

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EDUCATION

University of California, Santa Cruz

GPA: 4.0 | B.S. in Computer Science | Minors in Statistics, Literature

Santa Cruz, CA

Expected June 2027

Relevant Coursework: Data Structures and Algorithms, Analysis of Algorithms, Computer Networking

EXPERIENCE

Amazon Web Services (AWS) – Global Accelerator

Seattle, WA

Software Development Engineer Intern

June 2026 – September 2026

- Built a Rust/Tokio proxy from scratch as an NGINX replacement for AWS Global Accelerator, reducing p99 latency by 23% and increasing throughput by 3% in benchmarks.
- Created a 50,000-connections-per-second load test that collected metrics and flamegraph data in 3 minutes, down from approximately 30 minutes with the comparable prior test.

Software Development Engineer Intern

June 2025 – September 2025

- Automated load testing for AWS Global Accelerator during code deployment, saving approximately 400 developer hours annually and ensuring consistent performance across more than 20 regions.
- Refactored the CI/CD pipeline for a low-level networking application, increasing integration test frequency by 270% and accelerating the feedback loop for more than 12 developers.

University of California, Santa Cruz

Group Tutor | Data Structures and Algorithms, Machine Learning Basics

Santa Cruz, CA

April 2024 – Present

- Lead biweekly tutoring sessions for multiple courses, helping dozens of students understand core concepts and complete assignments.
- Collaborate with professors to design, test, and refine course assignments for hundreds of students.

Undergraduate Researcher | IRKM Lab

September 2024 – May 2025

- Developed Agent Confidence Estimation (ACE), a modular framework for integrating interchangeable models, datasets, and prompts to analyze confidence and uncertainty in large language models.
- Implemented baseline confidence estimation techniques for AI agents by evaluating semantic similarity across generated response sets.

Grader | Data Structures and Algorithms

June 2024 – August 2024

- Compiled and executed student assignments through the MOSS code similarity detector, then manually analyzed results to identify plagiarism.
- Graded hundreds of handwritten pseudocode submissions for logical correctness and time complexity analysis.

PROJECTS

Farsight | Python, PyTorch, SQL, AWS, PostgreSQL

October 2024

- Developed and trained a neural network to predict player performance metrics in League of Legends esports matches.
- Constructed a dataset of more than 600,000 matches by designing and querying a PostgreSQL database hosted on AWS.

TECHNICAL SKILLS

Languages: Rust, Python, Java, C, C++, SQL, TypeScript

Frameworks & Tools: Tokio, PyTorch, Pandas, NumPy, Spring

Web: HTML, CSS, JavaScript

AWARDS & INTERESTS

Awards: National Merit Scholar, Eagle Scout, AP Scholar with Distinction, California Scholarship Federation

Interests: Board games, ultimate frisbee, backpacking, reading, running, MLB