

Bach Tran

 bachtran.dev  bachtran02@berkeley.edu  linkedin.com/xbachtran  github.com/bachtran02

Education

University of California, Berkeley

December 2025

Bachelor of Arts in Computer Science - GPA: 3.85

Relevant Coursework: Data Structures, Software Engineering, Operating Systems, Computer Security, Principles & Techniques of Data Science, Data Engineering, Machine Instructions, Internet Architecture, Machine Learning.

Technical Skills

Languages: Python, Golang, C/C++, Java, JavaScript, Shell Script, Ruby on Rails, SQL, NoSQL, HTML/CSS.

Tools: Git/GitHub, Docker, Unix/Linux, AWS, Google Cloud Platform, PostgreSQL, MongoDB, Streamlit, REST, GraphQL.

Experience

Software Engineer Intern - Seamless Learning – University of California, Berkeley, CA February 2025 – July 2025

- Developed a lightweight Python + Google Cloud Platform framework for automated tracking and approval of student extension requests, actively supports 5,000+ students across UC Berkeley CS/EECS courses.
- Spearheaded platform migration to GCP Cloud Functions 2nd gen, consolidating 3 task function handles into a single containerized HTTP server, simplifying deployment and improving maintainability via GitHub Actions CI/CD.

Software Engineer Intern - Lexius, CA

May 2024 – August 2024

- Developed an on-device C program for Axis security cameras to stream live video to AWS Kinesis, enabling secure, real-time remote access and monitoring without exposing network ports.
- Engineered a Docker-based cross-compilation workflow to streamline building and deploying apps on Axis cameras, with secure AWS IoT Core device authentication using x509 certificates.
- Built a Golang tool for RTSP stream discovery, scanning 10+ URLs/sec and reducing manual validation time by 75%.

AI/Big Data Intern - MoMo, Vietnam

Aug 2022 – Sep 2022

- Delivered comprehensive comparative evaluation of machine learning model serving frameworks (KServe, Seldon Core, BentoML), contributing to the team's selection of a scalable solution for production deployment.

Computer Science Tutor - De Anza College, CA

Jun 2022 – Jun 2023

- Tutored 100+ students one-on-one in C++, Java, and Python, covering data structures and algorithms concepts.
- Organized career-growing, technical events featuring speakers from top tech companies for 200+ students.

Projects

Edstem.py | Python, asyncio, aiohttp, websockets | github.com/bachtran02/edpy

- Designed and implemented a client library for EdSTEM, an educational Q&A platform with 1M+ users, enabling third-party platforms to ingest real-time course and thread activity.
- Reverse-engineered EdSTEM's internal pub/sub system to decode undocumented WebSocket events and extract low-level payloads for custom API methods.
- Deployed a Python webhook service that streams Ed post notifications to Discord platform, achieving 99% uptime.

GradescopeSync | Python, BeautifulSoup, GitHub Actions | github.com/bachtran02/GradescopeSync

- Engineered a web scraper to extract structured assignment data from Gradescope's authenticated interface, improving deadline visibility and task organization for STEM students.
- Orchestrated a CI-based scheduler with GitHub Actions to automate daily SMS delivery of assignment summaries, maintaining 99% reliability without manual input.

Pintos Operating System | C, GDB, x86 architecture

- Implemented system call handlers bridging user programs and kernel, supporting core process life-cycle operations including creation, termination, and context switching.
- Enabled multi-threading on a single-core system by implementing thread management syscalls, priority-based scheduling, and synchronization primitives (locks, semaphores, condition variables).
- Enhanced the file system to support dynamic file growth via non-contiguous block allocation and a buffer cache with a clock-based eviction strategy, optimizing disk utilization and I/O performance.

Achievement

4th place in California, 2021 International Collegiate Programming Contest - Pacific Northwest region.