Brandon Li

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Education

University of California, Los Angeles (UCLA) — Expected June 2027
Bachelor of Science in Computer Science — *Los Angeles, CA*

Experience

Software Engineering Intern (Incoming) — June 2026 – Sept 2026
Google (YouTube) — *San Bruno, CA*

Software Engineering Intern — June 2025 – Sept 2025
VideoLAN — *Remote*

- Developed multiple C/C++ video filters for VLC Media Player (traffic cone).
- Integrated Segment Anything Model 2 (SAM2) with OpenCV to segment video objects.
- Added face detection using YuNet ML model to track over 100 faces concurrently.
- Engineered fast 60 FPS video-to-GIF conversion by developing 5 dithering algorithms.
- Analyzed AV1 specification and studied dav1d decoding algorithms to deepen knowledge.

Software Developer Intern — Feb. 2023 – June 2023
Halvex — *Remote*

- Designed a MongoDB-based TypeScript RESTful API to fetch customer data and emails.
- Launched a JavaScript Discord bot to link 100+ customers' WHMCS accounts with Discord.
- Established secure OAuth2 gateway RESTful API using Express.js for account verification.

Java Mentor — Sept. 2021 – Feb. 2022
Chelmsford Chinese Language School — *Remote*

- Taught 20 weekly 1-hour lessons to 10 middle/high-school students.
- Raised nearly 1,000 dollars for the non-profit, helping the school keep afloat during COVID.
- Spent 1-2 additional hours weekly preparing homework/slides to help students master material.

Projects

yt-media-storage | *C++, Assembly/SIMD, FFmpeg, Coding Theory, Compression* — Feb. 2026 – Present

- Popular C++ tool (740 stars, 80 forks) for encoding file storage into YouTube videos.
- Achieved 100x speed-up via inline Assembly, SIMD intrinsics, and OpenMP parallelization.
- Supports optional menu and file encryption via Qt 6 and libsodium for added privacy.
- Uses robust CRC/Wirehair error-correction to novelly bypass YouTube video compression.
- Reached #5 on Hacker News (Y Combinator) within 12 hours, generating thousands of views.
- Includes technical explanation video with over 2.8M impressions, educating over 230k viewers.

mcav | *Java, Spring Boot, TypeScript, CI/CD* — June 2020 – Present

- Popular Java framework (130 stars, 10 forks) for building media applications.
- Integrates with VLC/mpv with a documented image-processing pipeline API.
- Uses Spring Boot to stream sub-100ms latency audio to TypeScript/Howler.js frontend.
- Configured CI/CD with TeamCity on Oracle Cloud to automate software releases.
- Engineered native media player that is over 5x faster than pure-Java players.

Pulse Media Player | *C++, OpenGL, OpenAL, FFmpeg* — Feb. 2026 – Present

- Robust C++ media player written in less than 1K lines of code with lightweight UI.
- Implemented GPU-accelerated OpenGL shader pipeline enabling smooth 1080p playback.
- Supports OpenAL for automated audio device selection and smooth playback.

Technical Skills

Languages: Java, C/C++, JavaScript/TypeScript, Assembly
Frameworks & Libraries: Spring, Hibernate, FFmpeg, OpenCV, VLC, React, Next.js, Tailwind
Technologies: Git, MongoDB, Google Cloud, Oracle Cloud
Awards: USACO Gold, Google Foobar