

# Brandon Li

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## EDUCATION

### University of California, Los Angeles (UCLA)

*Bachelor of Science in Computer Science*

Expected June 2027

*Los Angeles, CA*

## EXPERIENCE

### Software Engineering Intern (Incoming)

*Google (YouTube)*

June 2026 – Sept 2026

*San Bruno, CA*

### Software Engineering Intern

*VideoLAN*

June 2025 – Sept 2025

*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

*Halver*

Feb. 2023 – June 2023

*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

*Chelmsford Chinese Language School*

Sept. 2021 – Feb. 2022

*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 (680 stars, 70 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 2.3M impressions, educating over 190k 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