

# Jonghyuk Lee

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## EDUCATION

### Brigham Young University

Bachelor of Science, Computer Science

Dec 2025

Provo, UT

- 1st Place Winner in the 2024 BYU ACM YHack with Benny Award.
- 1st Place Winner in the 2024 BYU PMA Hackathon.
- 1st Place Winner in the 2024 JustBuilding Hackathon (Utah Developer Hackathon).
- 1st Place in the 2025 Utah Tech Week AI Hackathon (1st out of 186)
- Tech President: Korean Business Student Association, Member: BYU Association for Computing Machinery (ACM).

## SKILLS

- Tech Stack: Python, JavaScript, TypeScript, SQL, Java, C++, React.js, Next.js, FastAPI, Node.js, Vue.js, Express, PostgreSQL, Amazon S3, DynamoDB, Supabase, MySQL, MongoDB, AWS EC2, Nginx, Git.

## EXPERIENCE

### iLabz

Aug 2023–Present

*Software Engineer*

Provo, UT

- Optimized application performance by decreasing redundant API calls by 30%, resulting in a 1-second decrease in load time, which streamlined approach lowered server costs and enhanced user experience, using **React.js**.
- Successfully resolved over 60 compatibility issues and performance bottlenecks introduced by the **Vue.js** upgrade, resulting in a 20% reduction in load times.
- Leveraged WebSocket technology to create a real-time trading system that enables users to initiate and accept trading requests.
- Reduced task completion time by 25% while improving product quality by establishing a collaborative team structure, using **Github**.

### Glod-AI

Jun 2024–Aug 2024

*Full Stack Software Engineer*

Provo, UT

- Reduced media processing time by 28% by integrating OpenAI Text-to-Audio and dubbing APIs, building a video merging API with **Python** and **FastAPI**, and developing a **RESTful API** for streamlined content delivery and management.
- Improved user experience and increased subtitle accuracy by 34% by designing and integrating UI for review page customization using **Next.js(React.js)** and constructing a subtitle API with OpenAI Audio-to-Text.
- Cut down API testing costs by 92% through the development of efficient and test functions, conducting end-to-end testing, and resolving critical bugs using **Python**.
- Leveraged an open-source library(**Moviepy**) to overcome the complexities of synchronizing text, audio, and video, resulting in a robust and customizable video generation process, using **Python**.

### BYU Korean Business Student Association (<https://www.byukbsa.org>)

Aug 2023–Present

*Tech Team Lead*

Provo, UT

- Built an online platform allowing Korean students to share information and seek assistance through a blog and authentication system, utilizing **React.js**, **Express.js**, **TypeScript**, **PostgreSQL**, **TailwindCSS**, **Amazon S3**, **Google Auth**, and **MongoDB**.
- By scaling server resources by 50%, we were able to handle a 30% increase in website traffic.

## PROJECT

### Swift Shorts - AI Shorts Generation and Video Analytics Tool (2024 BYU ACM YHack - 1st Place Winner)

- Automatically created 3 short videos from a long one by operating an algorithm to identify the most engaging parts, using **Python**.
- Resolved a critical issue with a misconfigured Google Document API, salvaging the project by successfully integrating the API through extensive parameter adjustments.
- Integrated the analysis results into a user-friendly interface for easy video editing, using **React.js**, **TailwindCSS**.

### Find My Housing (<https://www.findmyhousings.com/>)

- Boosted user engagement by 22% by developing and implementing a Google Maps integration using **React.js**, displaying over 140 housing locations with interactive markers, and engineering a modal system for detailed information on marker clicks.
- Experienced significant user growth, attracting over 2,000 users since its launch.

### Skill Gap Analyzer - Career Development Tool (BYU PMA Hackathon 2024 - 1st Place Winner)

- Developed a skill gap analysis tool to help users identify skill deficiencies and receive personalized learning recommendations.
- Leveraged OpenAI to dynamically generate questions, scored user responses with AI, and visualized user performance in a pentagon chart resembling game-like ability stats, enhancing engagement and user experience.

### AI Roofing and Solar Optimization Tool (2024 JustBuilding 24-Hour Hackathon - 1st Place Winner)

- Developed an AI-driven platform combining Google Maps API, ML Vision models, and AI to streamline roofing analysis and solar optimization.
- Automated roof damage detection, repair cost estimation, and solar energy potential analysis, generating detailed PDF reports.