

ZILIN LIU

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San Diego, CA, US

SUMMARY

Software/web developer with experience in **full-stack** development, **automated testing**, and performance optimization. Synthesizes experience in Node.js architectural design and **E2E** testing frameworks with strong computer science foundations to deliver highly scalable, high-performing solutions for complex technical challenges.

EXPERIENCE

New horizon AI, Acton, MA

09/2024-current

Software Quality assurance

- Developed comprehensive end-to-end (E2E) test suites using **Cucumber** and **Cypress** to validate critical system functionality, uncovering at least three previously unknown issues and testing benchmarks adhered to across multiple development teams, and ensuring ongoing development and integration.

Web Developer/Maintainer

- Architected a scalable stream-based **Node.js** architecture that eliminated system crashes when handling large data, reducing memory usage by approximately 70% in supply chain worksheet operations.
- Created a parallel chunk processing system that brought worksheet generation down from minutes to seconds
- Helped with server maintenance, and provided technical support to other team members in debugging customer issues via **Jira**

Shulang Technology, aka Digital Wave, Zhejiang, China

06/2022-09/2022

Intern Unity Developer/Tester

- Implemented and deployed intuitive UI for an oil transfer **VR training project** with **Unity**, enhancing usability and performance.
 - Applied **HPTK** for enhanced user interaction and added **XR Interaction Toolkit** to optimize VR experience with teleportation, reducing motion sickness and enhancing training realism.
 - Applied **Oculus XR Hand** and **HurricaneVR** packages to replicate precise hand and physical interactions in a VR environment.
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EDUCATION

University of California, San Diego

Bachelor of Science, Computer Engineering

09/2022– Current (06/2026)

- 3.91/4 GPA, CS: 3.98/4
 - Provost Honors, Caledonian honors, member of Phi Beta Kappa community
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SKILLS

- **Languages:** JavaScript/Typescript, Java, C# and Python
 - **Platforms/Tools:** Angular, React, Spring Boot, NodeJS; AWS (with Cloud Practitioner Certificate)
 - **Abilities:** Strong teamwork abilities and adaptability in collaborative environments, Bilingual in **Mandarin** with professional communication skills.
 - **Certificates:** AWS Cloud Practitioner, b46bd8b590fe4100bb71093ff9cd379b
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PROJECTS

Course Project, UC San Diego.

Full-Stack Web App + ESP32 Integration. <https://tech-assignment-final-project-kiminus.onrender.com>

01/2025 – 03/2025

- **Frontend:** Built a responsive UI using TypeScript/Javascript with user authentication and real-time sensor data visualization via dynamic charts.

- **Backend:** Designed RESTful APIs using Python FastAPI to handle device data and requests. Using MySQL to store sensors and other data. Programmed ESP32 device to collect and send data to server using C++

Web Project, U.S.

03/2023 – 08/2023

Video Recommendation Website, Full Stack

- **Frontend:**
 - Developed a Twitch-like video browsing and recommendation platform using **React** with **Ant Design** for UI, adhering to **REST API** principles.
 - Implemented user authentication, video search, and personalized recommendation features using **REST API** principles
 - Designed a **thin client architecture** to maximize accessibility and user satisfaction.
- **Backend:**
 - Developed backend using **Spring Boot** and **Gradle**, using **MySQL** in a **Docker** container for data storage.
 - Implemented a session-based authentication with **Spring Security** and user password encoding (bcrypt), along with caching via **Spring Data Caching** and **Caffeine**.
 - Utilized **JDBC** in Spring Boot for data communication and repository management.
 - Deployed the application on **AWS** (with App Runner)
- **Tools/Platforms:** Java, JavaScript/React, Spring Boot, MySQL/AWS

Course Project, UC San Diego, U.S.

12/2022

Sound Synthesizer project, https://kiminus.github.io/ECE45_Synthesizer/

- Create sound synthesizer project based on react
- Allow users to simulate waveform with envelope and filters.
- **Tools/Platforms:** React, Web development (HTML, CSS, JavaScript)

Courses

Most Recent Academic history: <https://tinyurl.com/376fe3pk>

CSE 29: Systems Programming and Software Tools

- systems programming using the C programming language and software tools (e.g., gdb, valgrind, make) in the UNIX environment

CSE 30: Computer Organization and Systems Programming

- Assembly language (C, arm assembly)
- Learned and designed basic components of computer processor, Studied fundamental computer hardware

CSE 100: Advanced Data Structures

- C and C++ programming, learned and analyzed implementations of trees, graphs, and hash tables

CSE 110: Software Engineering

- Developed project management software collaboratively in a team using Agile methodologies, integrating automated testing, CI/CD pipelines, test coverage analysis, and GitHub Pages for static web deployments.

CSE 158: AI and recommender design

- Created and designed AI model to predict item rating and offer recommendations.

ECE 101. Linear Systems Fundamentals

- Signal and system analysis in continuous and discrete time using Fourier/Laplace series/transformation.