ZILIN LIU

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SUMMARY

- Proficient in **C# and Java**; familiar with **Python and web development (JavaScript);** Experienced Microsoft Office and Google Workspace for documentation, data analysis, and presentations.
- Experienced in developing applications with **Spring Boot** and interested in **Unity development.**
- Skilled in deploying applications on **Google Cloud** and **Amazon Web Services (AWS)** in **Linux environment**, as well as on **GitHub Pages** for static site hosting.
- Bilingual in **Mandarin** with professional communication skills.
- Strong teamwork abilities and adaptability in collaborative environments.

SKILLS

- **Proficient:** C#, Java
- **Familiar:** C++, Go, Python, Web Development (JavaScript, Node.js)
- **Platforms/Tools:** Spring (Spring Boot, Gradle), React.js, Unity Engine; Deployment on Amazon Cloud, Google Cloud Services; MySQL, and relevant tools (Git, Postman, Docker)
- **Interests: Software** Development; Video Game Developer
- **Hobbies:** DND Games, Video Games (RPG or Coop), food.

EDUCATION

UC San Diego
Bachelor of Science, Computer Engineering/ Undergraduate **2022 Fall – Current**

- 3.9/4 GPA, CS: 3.97/4
- Provost Honors in all quarters **2022 Fall – 2024 Summer**
- Caledonian honors 2024

EXPERIENCE

数浪科技 (Shulang Technology, aka Digital Wave), Zhejiang, China **2022 Summer**
Intern Unity Developer/Tester

- Developed and implemented user-friendly UI for an oil transfer VR training project using Unity, enhancing usability and performance.
- Utilized HPTK for improved user interaction and integrated XR Interaction Toolkit to optimize VR experience with teleportation, reducing motion sickness and enhancing training realism.
- Leveraged Oculus XR Hand and HurricaneVR packages to simulate precise hand and physical interactions in a VR environment.
- Improved VR UI navigation by implementing a controller-based system, addressing user interaction challenges and significantly enhancing comfort and usability.
- Optimized rendering and performance using foveated rendering techniques.
- Collaborated with the team to write automated testing programs and prepare documentation for competitive market bidding.

PROJECTS

Unity Project, U.S. **2022 Winter**
Talis Stand, https://kongcheng.itch.io/talis-stand

- Developed the 2D tower defense game Talis Stand with my friends
- Designed and implemented shaders and use Particle system to support various hit effect
- Presented the game to the university game development club and won an award.
- Toolset used: C#, unity engine

Web Project, U.S. **2022 Spring**
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** features like user login/logout, video search, upvote/downvote, and personalized recommendations based on user preferences and video popularity.
  - **Implemented** integration testing with **Postman** and used **JavaFaker** for data mocking
  - **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 AppRunner)

- **Tools/Platforms:** Java (backend), JavaScript (frontend)/React, Spring Boot/AWS

Course Project, UC San Diego, U.S. **2023 Winter**
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

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.

ECE 65: Components and Circuits Laboratory

- Introduction to linear and nonlinear components and circuits, including diodes, MOSFET, BJT, and other transistors.

ECE 101. Linear Systems Fundamentals

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