Jiabao Hu

📞 (213) 509-1887 | ✉ jiabaoh@usc.edu | % Website | ⌂ Github | in Linkedin | 📍 Los Angeles, CA

EDUCATION

University of Southern California (USC) · Los Angeles, CA — Aug. 2023 – Dec. 2025
Master of Science in Computer Science — *GPA: 3.85/4*

University of Illinois at Urbana-Champaign (UIUC) · Urbana, IL — Sep. 2019 – Jun. 2023
Bachelor of Science in Civil Engineering · with Honors · Minor in Computer Science — *GPA: 3.75/4.0*

Zhejiang University (ZJU) · Hangzhou, China — Sep. 2019 – Jun. 2023
Bachelor of Engineering in Civil Engineering — *GPA: 3.93/4.0*

TECHNICAL SKILLS

- **Programming Languages**: Python, C, C++, Java, JavaScript, TypeScript, HTML, CSS, Shell
- **Technologies**: Spring Boot, Nginx, Angular, React, Flask, Django, Node.js, Express.js, Bootstrap, AWS, GCP, Azure, Heroku, MongoDB, Android, OpenGL, WebGL, Socket Programming, Figma
- **Tools**: MySQL, PostgreSQL, NPM, Redis, PyTorch, Git, Jupyter, Docker, Linux, WSL, VirtualBox, LaTeX
- **Certifications**: % Certified Scrum Developer

WORKING EXPERIENCE

Scrum Adventures - Full Stack Engineer Intern — Jun. 2025 - Present
Python, Django, PostgreSQL, Heroku, HTML/CSS — *Long Beach, CA*
- Developed and maintained web and mobile apps (CaDoMi™ Tools, Scrum Adventures website), enhancing usability and reliability for 500+ users
- Implemented Agile best practices (Pair Programming, TDD, CI/CD), cutting deployment errors by 30% and speeding up release cycles
- Built automated testing pipelines and continuous deployment workflows, reducing manual QA time by 40%

Team Lead – Teaching & Learning Assistant (Unimate) — Oct. 2021 – Jun. 2022
Zhejiang University International Business School (ZIBS) — *Hangzhou, China*
- Led a cohort of 10+ assistants to support incoming international students. Coordinated onboarding and served as a liaison between faculty and students.

SELECTED PROJECTS

- **OnigiriPress Static Site Generator**%: *TypeScript, React, Vite, Node.js, YAML, npm, Markdown, GitHub Actions*
  - Developed **OnigiriPress**, a modern static site generator and portfolio/blog framework focused on simplicity, performance, and developer experience.
  - Built with **TypeScript**, **React**, and **Vite**, achieving first-page load times under **300ms**.
  - Enabled Markdown-based content management, supporting batch rendering of **1000+ articles** in under **10 seconds**.
  - Automated deployment with **GitHub Actions**, reducing CI/CD time to **less than 2 minutes** and supporting one-command publishing to GitHub Pages.
  - Reached **2,000+ total downloads** on **npm** and adopted by developers for personal portfolios and tech blogs.
  - Designed a flexible theme and plugin system, supporting custom layouts, audio players, code highlighting, and math rendering.
- **Full-Stack Web Weather App**%: *Angular, Node.js, Express.js, MongoDB Atlas, AWS EC2, Tomorrow.io API*
  - Developed a responsive weather app with **Angular** and **Express.js**, supporting real-time forecasts with UI updates under **100ms**.
  - Designed scalable **RESTful APIs** to fetch live weather data from **Tomorrow.io**, sustaining **300ms average latency** under load.
  - Integrated **MongoDB Atlas** to persist up to **50+ favorite cities** per user across sessions with **zero data loss**.
  - Deployed on **AWS EC2** with Nginx reverse proxy, autoscaling to support **1000+ concurrent users** with 99.9% uptime.
- **Android Weather App**%: *Java, Android SDK, Google Maps API, MongoDB Atlas, Tomorrow.io API*
  - Developed a mobile weather app in **Java** with **Android SDK**, featuring real-time weather updates, achieving smooth **60FPS** rendering across 3 interactive tabs.
  - Integrated **Tomorrow.io** and **Google Maps API** to support location-based forecasts and search autocomplete, enabling response times under **200ms**.
  - Built persistent cloud storage using **MongoDB Atlas**, supporting up to **50+** cities tracked across sessions with zero data loss in testing.
  - Designed a responsive tab layout with Highcharts visualizations, favorite city bookmarking, and 1-click Twitter sharing; user navigation latency kept below **100ms**.

SELECTED RESEARCH EXPERIENCE

Research Assistant – Computer Vision · Software Engineering — Sep. 2022 – Apr. 2023
Zhejiang University/University of Illinois Urbana-Champaign Institute — *Haining, China*
- **Engineered a modular 3D simulation platform in Python/Blender**: Designed and implemented the "Random Bridge Generator," a procedural modeling tool that programmatically builds synthetic 3D bridge environments (6 bridge types) with randomized structural geometry and textures. GitHub Link Publication Link
- **Built scalable data generation pipelines for CV model training**: Automated the generation of 10K+ photorealistic images with pixel-wise annotations using randomized UAV-style camera views and Cityscapes background overlays, enabling high-quality datasets for semantic segmentation.
- **Integrated and trained deep learning pipelines (PyTorch)**: Trained DeepLabV3+ with ResNet-101 encoder on the synthetic dataset, achieving 85.9% IoU for column/pier detection and 79.8% for deck — enabling accurate structural component recognition.