

# Jiabao Hu

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## 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** Long Beach, CA  
*Python, Django, PostgreSQL, Heroku, HTML/CSS* Jun. 2025 - Present
  - 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)** Hangzhou, China  
*Zhejiang University International Business School (ZIBS)* Oct. 2021 – Jun. 2022
  - 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, 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 for Infrastructure AI** Haining, China  
*Zhejiang University/University of Illinois Urbana-Champaign Institute* Sep. 2022 – Apr. 2023
  - **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.