TINGXUAN WU

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EDUCATION

University of California-Riverside (UCR)   *Riverside, CA*

M.S. in Computer Science   September 2025 – June 2026 (Expected)

B.S. in Computer Science   September 2022 – June 2025

- **MS GPA: 3.83/4.0** (Ongoing)
- **BS GPA: 3.98/4.0** (Summa Cum Laude)
- **Relevant Coursework**: Operating Systems, Concurrent Programming, Information Retrieval, Advanced Algorithms, Big Data Management, Machine Learning, Computer Graphics
- **Awards**: CitrusHack 2025 (2nd Place Overall)

EXPERIENCE

Fanalyze   *Remote, San Francisco, CA*

Software Engineering Intern   July 2025 – September 2025

- Drove full-stack product life-cycle of React Native mobile app, deploying and launching on Apple/Google Play Store
- Provisioned containerized Python/Flask backend API using Docker and Terraform on AWS, reducing manual setup by 70%
- Developed scalable API by implementing parallel processing with `asyncio` and Redis layer for caching/rate-limiting
- Managed scalable frontend states with Zustand, implementing user monetization features using RevenueCat SDK
- Established comprehensive testing framework (Jest and Pytest) to ensure high-quality code and rapid feature iteration

Cutie Hack   *Riverside, CA*

Software Engineering Lead   June 2025 – November 2025

- Led full-stack development for 200+ attendee hackathon platform, managing cross-platform compatibility and deployment
- Achieved 99.9% uptime for participant login and check-in during peak event traffic by resolving critical production bugs
- Spearheaded development of LLM-powered Discord bot to provide real-time support for attendees, reducing team workload
- Engineered production-ready RAG pipeline using Pinecone to optimize token usage, reducing context size by over 70%

Association for Computing Machinery (ACM)   *Riverside, CA*

Full-Stack Project Lead   October 2024 – January 2026

- Led and conducted code reviews for 20+ developers in an Agile workflow to develop and deploy 3+ Next.js websites
- Collaborated with 5+ designers/clients to scope project requirements, translating Figma mockups to technical tickets
- Established CI/CD pipelines with GitHub Actions to automate testing and deployment to GitHub Pages

UCR Computer Science   *Riverside, CA*

Undergraduate Learning Assistant   October 2024 – August 2025

- Mentored 50+ students on complex C++ and Python data structures, algorithms, and debugging techniques
- Partnered with professors and TAs to identify and resolve recurring student challenges from weekly lab sessions

PROJECTS

🔗 **GarboGotchi: Gamified Desktop App** | *React.js, Electron, TensorFlow.js, Arduino*   🐙 /tingtingtingtin/garbogotchi
- Secured 2nd Place at CitrusHack 2025 by developing full-stack desktop app featuring gamified pet interaction system
- Implemented frontend using React/Tailwind, integrating with TensorFlow.js model for real-time webcam classification
- Resolved compatibility issues within Electron to enable communication between ML model and Arduino hardware

🔗 **tingOS: Web-based Desktop** | *Next.js, TypeScript, Zustand, Framer Motion*   🐙 /tingtingtingtin/tingOS
- Architected virtual desktop environment with window management system, custom taskbar, & persistent user settings
- Engineered terminal emulator and session-cached source-aware VFS using REST API and webhooks for data revalidation
- Optimized performance/SEO via server components/dynamic imports, reducing bundle size by 50% & improving LCP by 60%

🔗 **3D Gaussian Splat Renderer (WIP)** | *Three.js, GLSL, TypeScript, Web Workers*   🐙 /tingtingtingtin/threejs-splat
- Constructed renderer to parse/visualize splat files by projecting 3D Gaussians into screen-space via custom GLSL shaders
- Optimized async depth-sorting pipeline using Web Workers to decouple heavy CPU-side sorting from main render loop
- Implemented Jacobian transformations & eigenvalue decomposition to calculate screen-space ellipse axes in real-time

SKILLS

Languages: TypeScript, Python, SQL, C++, Java, JavaScript
Backend: PostgreSQL, Redis, Node.js, Flask, Firebase, WebSockets, Pytest
Frontend: Next.js (App Router), React, React Native, Vue, Zustand, TanStack Query, Jest
Developer Tools: AWS, Docker, CI/CD (GitHub Actions), Linux, Git