

## HONGZHE XIE

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### EDUCATION

University of California, Merced | Computer Science and Engineering | Class of 2028

### PROFESSIONAL EXPERIENCE

#### Full-Stack Software Engineer, UC Merced

- Build and operate production web systems serving external business stakeholders through UC Merced's Innovate to Grow initiative.
- Translate business requirements into scalable backend architectures using Django and RESTful service design principles.
- Own end-to-end delivery lifecycle including database schema design, API development, cloud deployment, and production monitoring.

#### Google I/O 2025, Google

- Attended keynote and developer sessions on AI, Android, and web technologies.
- Participated in hands-on workshops utilizing the Agent Development Kit (ADK) and applying best practices in web performance optimization.

#### Python Software Engineer, China Academy of Building Research

- Participated in a semantic segmentation project using Python and deep learning to identify rooftop areas from aerial imagery.
- Preprocessed image datasets, annotated data, and trained models for optimizing solar panel placement analysis.

#### Microsoft AI Day 2024, Microsoft

- Engaged directly with Microsoft AI experts to discuss emerging innovations and real-world applications of artificial intelligence.
- Gained insights into the future direction of AI research, development, and enterprise integration.

#### Financial Data Analyst, Citibank

- Conducted financial analysis using Excel and Python, leveraging company fundamentals to evaluate performance.
- Created dashboards to visualize KPIs, enhancing clarity in economic reporting and investor decision-making.

### SKILLS & INTERESTS

#### Python Full-Stack Web Development

- Developed and deployed full-stack web applications using Django REST Framework (DRF) and Vue.js.
- Designed and optimized MySQL database schemas, integrated Object-Relational Mapping (ORM) queries, and managed migrations for scalable data handling.
- Containerized backend and frontend services with Docker and set up system services to ensure automatic startup and fault recovery.
- Implemented and maintained CI/CD pipelines to automate the build, testing, and deployment processes, reducing deployment time and errors.
- Employed SSH for secure remote access and server management across development, staging, and production environments.

### **Google Agent Development Kit (ADK)**

- Developed intelligent task-oriented agents using Google's Agent Development Kit (ADK), integrating LLM reasoning with structured tool and API calls.
- Built multi-modal pipelines combining natural-language understanding, contextual planning, and API orchestration for web and model environment.
- Implemented message-passing workflows and modular task graphs to enable dynamic sub-task decomposition and multi-agent collaboration.

### **Cybersecurity & Secure Systems Development**

- Implemented multi-factor authentication (MFA) and WebAuthn/FIDO2 passkey authentication for password less login within Django REST Framework and Vue.js environment.
- Configured HTTPS headers in Nginx to prevent man-in-the-middle attacks, script injection, and clickjacking vulnerabilities.
- Performed security audits on GraphQL and REST API endpoints, identifying and mitigating CSRF and XSS vulnerabilities.
- Developed role-based access control (RBAC) and fine-grained permission models to secure backend APIs and user interfaces.
- Implemented rate limiting, token blacklisting, and audit logging to detect and prevent malicious access or abuse.
- Utilized Postman for penetration testing, endpoint verification, and API vulnerability scanning.
- Integrated automated security scanning and dependency vulnerability checks into CI/CD pipelines, ensuring secure and compliant code deployment.