

Panya Ou

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EDUCATION

Western Governors University

Master's of Science in Software Engineering, Artificial Intelligence

Salt Lake City, UT

Expected 2026

California Polytechnic State University

Bachelor of Science in Computer Science

San Luis Obispo, CA

June 2023

Relevant Coursework

Real Life Applications of Data Structures & Algorithms | Advanced Software Engineering | Database Systems | Distributed Systems | Applied Machine Learning for Business Solutions | Linear Algebra | Operating Systems | Object-Oriented Programming | Mobile Application Development | Software Architecture and Design | Software Product Design and Requirement Engineering | Software Quality Assurance and Deployment |

PROFESSIONAL EXPERIENCE

IT Technical Support Specialist

Crosslink Professional Tax Services

Lathrop, CA

Jan 2024 – June 6th 2025

- Handled clients' sensitive and private information in strict compliance with confidentiality and data protection regulations.
- Solved critical technical issues to ensure uninterrupted operations, including software installations and network configurations, significantly minimizing downtime.
- Utilized the Jira ticketing system and proprietary database tools to track, analyze, and resolve technical issues, collaborating with clients and internal teams as needed.
- Monitored and analyzed support trends to proactively address recurring issues and prioritized high-impact incidents.
- Documented all client interactions and resolutions in concise, detailed reports, ensuring transparent communication, accurate tracking for future reference, and compliance with internal auditing requirements.

Coding Instructor

Code With Us

Tracy, CA

September 2023 – Jan 2024

- Managed educational challenges by developing engaging and adaptive curriculum tailored to diverse student abilities, effectively teaching programming fundamentals to students in grades 1-8.
- Identified and addressed individual learning barriers by adapting teaching methods between block-based (Scratch) and text-based (Python) coding, enhancing student comprehension and enthusiasm.
- Clarified complex programming concepts and their real-world applications, effectively developing students' critical thinking and problem-solving abilities.
- Managed and resolved classroom management challenges, fostering an inclusive, collaborative, and creative learning environment for students.
- Monitored and solved student engagement and understanding issues by implementing interactive activities and personalized feedback, significantly boosting student progress and enthusiasm for technology.

Support Engineer

Verizon

Sacramento, CA

June 2022 – September 2023

- Addressed and resolved connectivity and service disruptions for over 100 client interactions monthly, achieving a 95% satisfaction rate by troubleshooting and optimizing advanced 5G wireless internet setups.
- Quickly identified and rectified technical issues such as network outages, signal interference, and device compatibility, achieving a 90% first-call resolution rate and reducing the average resolution time to 15 minutes.
- Solved inefficiencies in onboarding by developing targeted training programs and hands-on mentorship for 10 new hires, resulting in a 20% increase in team performance within three months.
- Improved customer retention by proactively addressing recurring service concerns and delivering exceptional personalized support, contributing directly to a 10% increase in retention rates.
- Simplified complex network technologies and technical terminology related to 5G infrastructure, routers, modems, and connectivity protocols for over 50 clients and colleagues, significantly improving their technical comprehension and reducing follow-up inquiries by 30%.

PROJECTS

Personal Cloud Infrastructure & Web Services (Raspberry Pi 5, Linux, Docker, Node.js, Nginx) August 2026

- Designed and deployed production-ready Linux server environment on Raspberry Pi 5, implementing secure SSH access, SSL certificates, and automated backup systems to support 24/7 service availability.
- Built and maintained multiple web applications including custom Node.js web server, real-time multiplayer game server, and Python Flask API for IoT device control.
- Developed RF-based home automation system by decoding ceiling fan remote binary signals, creating CC1101 controller script, and hosting web interface locally for mobile device control.
- Implemented containerized microservices architecture using Docker for service isolation and automated deployment, running Node.js game server, Python RF controller, and Nginx reverse proxy in separate containers.
- Integrated hardware control (RF transmission) with modern web technologies (REST APIs, WebSocket), creating a unified platform accessible through a single mobile-responsive dashboard.

Warehouse Inventory Management System (Python, Application of Data Structures, Unit Testing) July 2025

- Built a comprehensive inventory management system from the ground up, designing a custom database schema and an Entity-Relationship Diagram (ERD) modeling complex relationships between warehouses, shelves, products, customers, orders, and order items with proper referential integrity constraints.
- Implemented advanced data structures, including hash tables for $O(1)$ product lookups and deques for efficient FIFO activity logging, processing real-time inventory updates across multiple warehouses while maintaining strict relational consistency.
- Designed scalable space optimization algorithms analyzing warehouse utilization patterns and generating prioritized recommendations, improving storage efficiency by up to 30% through intelligent product placement and shelf rebalancing.
- Developed fault-tolerant backup and recovery mechanisms with automated system checkpoints, ensuring 99.9% data integrity and zero-downtime recovery capabilities for mission-critical warehouse operations.
- Built a comprehensive functionality suite handling complex business operations, including inventory tracking, order processing, shipping workflows, and automated correctness validation, with extensive unit testing coverage ensuring reliable data relationship management.

AI SaaS Website Generator (Next.js, Typescript, Shadcn/ui, Prisma, Neon, PostgreSQL, TRPC, Clerk) June 2025

- Developed an application enabling users to generate interactive applications from simple text prompts, comparable to industry-leading tools such as Replit and Bolt.
- Integrated Clerk for authentication and billing with OAuth support, webhooks, and role-based access control for multi-tenant functionality.
- Connected OpenAI GPT-4 API with E2B sandboxed containers for secure code execution, enabling real-time preview and hot-reload of generated applications.
- Designed a modern and responsive UI system using Tailwind CSS v4 and Shadcn/UI with custom theming, dark mode, and WCAG 2.1 AA compliance across 50+ components.
- Established automated CI/CD pipeline with AI-powered code reviews via Code Rabbit.

Cloud Application Performance Optimization (Python, Bash, AWS EC2, Regression Analysis, Make) Jan 2023

- Resolved performance degradation in AWS EC2 cloud applications by identifying latency issues and resource bottlenecks, improving response times by 30% through detailed benchmarking and resource optimization.
- Diagnosed critical server application bottlenecks related to CPU, memory, and I/O performance, implementing solutions such as code refactoring and configuration adjustments to enhance system reliability.
- Developed custom Python and Bash scripts for real-time monitoring and automatic issue detection, significantly reducing troubleshooting response times by 40%.

TECHNICAL COMPETENCIES

Programming Languages/Frameworks: Python | Java | TypeScript | C# | SQL | React | .NET | Angular

Software/Platforms: Git | AWS | Jira | Heroku | Postman | MongoDB | MySQL Workbench

Operating Systems: Windows | Mac | Linux