

PEIKE XU

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EDUCATION

Carnegie Mellon University

Master of Science in Software Engineering

Mountain View, CA

Aug 2025 – Dec 2026

University of California San Diego

La Jolla, CA

Bachelor of Science in Computer Science, Double Major in Mathematics (3.73/4.0)

Sep 2021 – Jun 2025

- **Leadership:** Instructional Assistant for AI Algorithms and Calculus courses, mentoring 600+ students
- **Coursework:** Machine Learning, Data Structures & Algorithms, Linear Algebra, Statistics Modeling

WORK EXPERIENCE

Welfie | Full Stack Developer Intern – San Diego, CA

Jun 2024 – Sep 2024

Patient Matching Platform

- Engineered React-based patient matching system implementing SVD collaborative filtering algorithms for 3,000+ patient database, achieving 75% recommendation accuracy and reducing manual resource allocation time by 60%
- Developed Node.js RESTful APIs integrated with SendGrid email service to automate patient notifications, processing real-time healthcare data and delivering personalized recommendations with sub-second response times

Learning Management System

- Architected scalable PHP-based LMS on Google Cloud Platform with ChatGPT API integration, processing various educational topics and reducing course creation time
- Implemented comprehensive Jest testing framework and CI/CD pipeline, achieving 95% code coverage and ensuring 99.9% system uptime for 1,000+ concurrent sessions

TCT Mobile | Software Test Engineer Intern (Part-Time) – Bellevue, WA

Jun 2024 – Aug 2024

- Built automated Android testing framework using ADB protocols and Python statistical analysis to process system logs, identifying performance bottlenecks and reducing manual testing cycles by 40%
- Designed data processing pipeline for 10,000+ pressure test scenarios, implementing anomaly detection algorithms that decreased critical bug identification time from 2 days to 4 hours
- Created interactive testing dashboard with real-time metrics visualization, enabling development teams to identify and resolve system issues 60% faster during release cycles

Eth Tech | Software Engineer Intern – Newark, CA

Oct 2023 – Jan 2024

- Developed microservices-based e-commerce platform using Java Spring Boot architecture, supporting 10,000+ concurrent users while improving system modularity and enabling independent service deployment
- Implemented advanced product search and filtering features with Redis caching layer, reducing average page load times from 800ms to 520ms and improving user engagement metrics by 25%
- Authored comprehensive API documentation and unit testing suite achieving 90% code coverage, reducing integration bugs by 40% and accelerating new developer onboarding process by 3 weeks

PROJECTS

- **Enterprise RAG Agent Service:** Built production-ready B2B RAG system on AWS infrastructure processing 100+ enterprise documents, implementing semantic text chunking and vector indexing with OpenSearch to achieve 92% contextual retrieval accuracy. Deployed secure chatbot interface via API Gateway with transformer-based embeddings, enabling enterprise clients to query internal documents with average response times under 200ms.
- **AI-Powered Smart Receipt & Recipe Platform:** Built multi-agent system using Claude Code to automate grocery receipt processing, implementing computer vision models trained on diverse supermarket formats to extract purchase data with 82% accuracy. Developed intelligent recipe generation engine that analyzes user purchases to suggest personalized meal plans, with reverse meal planning where users select desired dishes and receive optimized shopping lists.
- **Emergency Response Chat Application:** Developed real-time disaster communication platform using Node.js and HTML/CSS as part of agile software engineering team, implementing WebSocket connections. Architected scalable messaging system with user authentication and role-based access control, enabling seamless communication between citizens and emergency responders with uptime during critical disaster scenarios.

TECHNICAL SKILLS

Programming Languages: Python, Java, C++, JavaScript, TypeScript, SQL, PHP, Bash, HTML/CSS

Machine Learning & AI: TensorFlow, PyTorch, Scikit-learn, XGBoost, OpenCV, LangChain, Transformers, SVD

Frameworks & Tools: React, Node.js, Spring Boot, Flask, Docker, Jenkins, Git, RESTful APIs

Cloud & Databases: AWS (S3, Lambda, API Gateway, EC2), GCP, OpenSearch, PostgreSQL, MongoDB, Redis

Core Competencies: Deep Learning, MLOps, Microservices Architecture, System Design, A/B Testing