

Pei-Wen Tang

San Francisco, United States

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EDUCATION

University of San Francisco Aug 2023 – Present
MS in Computer Science GPA 3.95/4.0

- Built a web game using Java, JavaScript, React, Java Spring Boot, HTML/CSS, and Google Cloud Platform.
- Trained and applied neural models, implemented reinforcement learning, and implemented decision tree and Hidden Markov Model using Python, Numpy, and TensorFlow.

National Taiwan University of Science and Technology Sep 2013 – Jun 2015
MS in Mechanical Engineering GPA 3.83/4.0

- Completed master thesis: Structured Light Based Automatic Random Bin Picking System by integrating robot arm and three-dimensional image processing. (Score: 90/100)
- Conducted research into analyzing methods and making prototypes of indoor and outdoor robot navigation systems.

PROFESSIONAL EXPERIENCE

Software Engineering Intern, Zoofi.ai Sep 2025 – Feb 2026

- Contributing to AI-driven projects, utilizing Go and TypeScript to develop scalable backend services.
- Collaborating with the engineering team via Slack, Jira, and GitHub to manage repository access and project workflows.

AI Engineer, Foxlink Image Technology Aug 2020 – Aug 2021

- Created a module for defect detection including different scales of dust, scratches, and abrasion, performing at 96.7% accuracy. (TensorFlow, Python, Computer Vision)
- Integrated AI and traditional image processing to increase accuracy from 87% to 99.5% for industrial inspections. (TensorFlow, Python, OpenCV, C++, CUDA)
- Designed and deployed automated parts assembling systems by integrating robot arms and computer vision. (C++, OpenCV)

R&D Engineer, Foxlink Image Technology Nov 2016 – Aug 2020

- Designed and deployed production automation systems, reducing labor costs by 10%.
- Implemented image enhancement algorithms for noise removal and crease removal in mass-produced scanners.

PROJECTS

Distributed File System (Go, Docker & Protobuf)

- Engineered a decoupled DFS with distinct control and data planes, implementing custom TCP Length-Prefixed Framing and Protocol Buffers to handle high-throughput inter-component communication.
- Maximized download bandwidth via parallel retrieval using Go's Goroutines to fetch data chunks concurrently from multiple Storage Nodes.
- Developed a self-healing architecture featuring a Consistent Hashing Ring for replica placement, heartbeat-based failure detection, and background re-replication to maintain N-factor durability.
- Implemented Read Repair and Pipeline Replication with tunable consistency ($W \leq N$) to optimize write latency and ensure data integrity via CRC32 checksum validation.

AI-Powered Image Analytics (FastAPI & OpenCV)

- Built a RESTful API using FastAPI and Python to perform real-time image processing with OpenCV.
- Deployed the service on AWS, leveraging NoSQL databases for efficient metadata storage and retrieval.

Home Haven Web App (Team Leader)

- Led development of a real estate matching platform using Next.js, React, and PostgreSQL with Tailwind CSS.
- Integrated Google APIs and managed project workflows using Jira, Figma, and Slack.

TECHNICAL SKILLS

- **Languages:** C/C++, Java, Python, HTML/CSS, JS/TS, Go, SQL, Bash
- **Web/Backend:** React.js, Next.js, Express.js, Django, FastAPI, Tailwind CSS, Node.js
- **Cloud/Data:** Google Cloud Platform (GCP), AWS, Firebase, PostgreSQL, MongoDB, NoSQL
- **AI/Specialized:** OpenCV, CUDA, Artificial Intelligence, Big Data, Distributed Systems
- **Tools:** Git, GitHub, Docker, Linux, VSCode, IntelliJ, Pycharm, Figma, Jira

LANGUAGES

- **English:** Highly proficient

- **Chinese:** Native speaker