

Tao Chen

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Summary

Senior software engineer specializing in intelligent systems, agentic frameworks, and large-scale AI platforms. Proven track record of leading complex systems from research to production, including open-source frameworks used at massive scale. Passionate about building reliable, observable, and impactful AI systems that solve real-world problems.

Experiences

Microsoft

Redmond, WA

Senior Software Engineer - CoreAI

Jan 2025 - Present

- Lead engineer and principle architect for **Microsoft Agent Framework**, the successor to Semantic Kernel and AutoGen.
- Designed and drove the **agentic workflow** system, including a Pregal-style in-process runtime, human-in-the-loop execution, checkpoint, and end-to-end observability.
- Influenced core architectural decision to ensure scalability, reliability, and developer ergonomics across internal and external users.

Senior Software Engineer - Office of the CTO

Feb 2023 - Jan 2025

- Lead engineer for **Semantic Kernel**, Microsoft's open-source SDK for building agentic applications with LLMs.
- Led major initiatives in agent architecture, **multi-agent orchestration**, and observability.
- Played a key role in bringing the framework to **General Availability (GA)** and scaling adoption to **170M+** monthly Azure OpenAI requests.
- Contributed to the OpenTelemetry GenAI Semantic Conventions**, helping define cross-industry standards for LLM and agent observability based on production learnings from Semantic Kernel.

Software Engineer II - Mixed Reality

May 2022 - Feb 2023

- Key contributor to an end-to-end pipeline enabling large enterprise customers to rapidly prototype and deploy custom computer vision models.
- Integrated synthetic data generation, model training, and deployment workflows, reducing model prototyping and development cycles from months to **under one week**.

Xpeng Motors/Xsense.ai

San Diego, CA

Software Engineer II - Prediction

Oct 2021 - May 2022

- Designed and implemented motion prediction algorithms for bicycles and motorbikes in dynamic, safety-critical traffic environments.
- Successfully deployed prediction models to production autonomous vehicles.

Software Engineer - Sensor Fusion

Dec 2019 - Oct 2021

- Developed stationary object detection and multi-object tracking algorithms for L2 autonomous driving using radar-camera sensor fusion.
- Achieved **150m average detection range** and deployed solutions to production vehicles, improving perception accuracy and vehicle safety.

Robotic Embedded Systems Laboratory (RESL)

Los Angeles, CA

Research Assistant

May 2018 - Dec 2019

- Led research on reinforcement learning for quadrotor control with emphasis on real-world transferability.
- Built simulation environments using ROS and OpenAI Gym.
- Developed pipelines to convert trained neural networks into high-performance embedded code for real-time flight control.

Education

University of Southern California

Aug 2017 - May 2019

Master of Computer Science in Intelligent Robotics, Best Research Award

Oregon State University

Sep 2014 - June 2017

Bachelor of Computer Science in Computer Systems, Honor Roll, Engineering Scholarship

Publications

- Sim-to-(Multi)-Real: Transfer of Low-Level Robust Control Policies to Multiple Quadrotors**, IROS 2019. A. Molchanov*, **T. Chen***, et al. [*equal contribution]