

TIANYI (TIM) CHEN

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EDUCATION

Stanford University

M.S. Computer Science

Stanford, CA

September 2024 – Present

- **GPA:** 3.93
- **Relevant Courses:** Machine Learning, Deep Learning for Computer Vision, Natural Language Processing with Deep Learning, Graph Neural Network, Deep Reinforcement Learning, Mining Massive Data Sets, Convex Optimization, Advanced Networking and Distributed Systems, Big Data Systems, Cryptocurrencies and Blockchain Technologies.

New York University

Bachelor's in Computer Science and Game Design

New York, NY

September 2020 – May 2024

- **GPA:** 3.97
- **Relevant Courses:** Operating Systems, Software Engineering, Computer Graphics, Probability & Statistics, Linear Algebra

EXPERIENCE

Stanford University Computer Science Department

Course Assistant (CS224W, CS246) & Research Assistant

Stanford, CA

September 2025 – Present

- Served as Course Assistant for CS224W (Machine Learning with Graphs) and CS246 (Mining Massive Data Sets) under Prof. Jure Leskovec, leading office hours, moderating Ed discussions, designing HW/exams, and contributing to grading rubrics, project guidance, and exam logistics for large-scale courses.
- Conducting research on agentic systems and LLM-based reasoning with Jiaxin Pei and Alex Pentland; co-led the ReCAP project and currently extending it to support repository-level coding tasks with long-term memory.

Stripe Inc.

Engineer Intern

South San Francisco, CA

June 2025 – September 2025

- Worked on Rules Infrastructure; optimized a core database interaction for the rule's engine by implementing a pre-check that reduced daily write transactions by over 85% and significantly lowered system load.
- Spearheaded an architectural refactor by developing a synchronous execution model, which simplified a legacy multi-threaded system, reduced the system's internal threadpool usage by 90%, and increased throughput by over 75% in overutilized scenarios and by 18% in normal scenarios.
- Engineered a zero-downtime rollout strategy using feature flags, monitoring system health and performance with Grafana, Hubble, and Splunk to validate impact and ensure stability for all internal users.

Johnson & Johnson

Backend Development Intern

Shanghai, China

June 2023 – September 2023

- Worked on Swift, a global logistics system, collaborating with teams from China, Singapore, and the US; focused on backend development using Typescript, Node.js, Nest.js, SQL Server, and TypeORM.
- Implemented logistical prediction systems, forecasting future events' supply & demand trends, and modelling corresponding solution forecasts, while accommodating new needs like safety stock and backorder predictions.
- Proposed and executed a restructure of a complex table system, enhancing query and pagination, leading to a 60% speed improvement.

Kromo Games

Co-founder, Lead Game Developer

New York, NY

March 2022 – May 2024

- Assembled a team of 6 members to create [Mikrococosmos](#), an online multiplayer video game that has gained 25,000+ downloads on Steam. Managed team communication and coordinated work in an agile environment for rapid iteration.
- Integrated the game with Microsoft Azure and PlayFab to build a serverless backend architecture. This facilitated user management, data computation, and real-time event updates for the game.
- Identified and generalized problems from gamer feedback. Analyzed root cause and concluded potential directions for execution. Effectively communicated with the team and organized teamwork in an agile environment for rapid iteration.

PROJECTS

[ReCAP: Recursive Context-Aware Reasoning and Planning with Language Models](#)

Research Project, Developer

Stanford, CA

March 2025 – September 2025

- Designed and developed the core inference architecture, enabling dynamic task decomposition via recursive multi-agent reasoning. Accepted to *NeurIPS 2025 Poster*.
- Implemented a key module that adaptively generates submodules based on prior results, forming a tree-like execution structure.
- Developed mechanisms for efficient context management across subtasks.
- Established evaluation pipelines on Robotouille, Alfworld, FEVER, and Swe-Bench, benchmarking against CoT, React, and ADaPT.

[Water Quality Analysis and Prediction in Unmonitored Networks with RGCNs](#)

Research Project, Developer

Stanford, CA

September 2024 – January 2025

- Designed and implemented a Transformer-enhanced RGCN for water quality prediction in unmonitored networks.
- Developed key model components with sequence-aware feature encoding and relational message passing to capture both temporal and spatial dependencies.
- Achieved 35% improvement than traditional GCN and 7% improvement than standard RGCN.

SKILLS

Programming Languages: C#, Java, Python, JavaScript, TypeScript, Scala, HTML

Technologies: SQL, SpringBoot, Maven, Hibernate, REST, Hadoop, Spark, Kafka, GCP, AWS, Unity, NodeJS, NestJS, Docker, Flask, MongoDB, Jupyter Notebook, Microsoft Azure, MVC, Git, Agile Development, Dagger, CI/CD, Jira, Confluence, UML, JSON, XML, Grafana, Blockchain.

AI & Data: PyTorch, PyG, Hugging Face Transformers, Scikit-learn, Pandas, NumPy, Matplotlib, NetworkX, OpenCV, Shader Slang

AI Background: Machine Learning, NLP, LLM, Graph Neural Network, Computer Vision, Data Mining, Reinforcement Learning.