

# Jihui (Todd) Tan

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## EDUCATION

### The University of Chicago

Chicago, IL

#### Master of Science in Financial Mathematics

Expected December 2025

- Courses: Portfolio Theory & Risk Management, Python for Finance, Option Pricing, Probability & Stochastic Processes

#### Joint B.S./M.S. in Computer Science | B.A. in Economics (GPA: 3.535/4.0)

June 2024

- Courses: Statistics, Probability, Multivariable Calculus, Linear Algebra, Algorithms, Data Structures, Trading, Investments, Money and Banking, Econometrics, Databases, Machine Learning, Cloud Computing, Advanced C++, Networks, Operating Systems, Web Development, iOS Development, Printed Circuit Board, Robotics

## SKILLS

**Programming Language:** Python, SQL, C, C++, R, Ruby, Javascript, Java, Swift, HTML/CSS

**Frameworks:** Flask/Quart, Ruby on Rails, React, Node.js, SwiftUI, UIKit, ROS(rospy), WordPress

**Developer Tools:** git/GitHub, Docker, AWS, Azure, Selenium, Numpy, Pandas, Matplotlib, Arduino, KiCAD, Fusion 360

**Generative AI Tools:** Llama, ChatGPT, Elevenlabs, Midjourney, Dall-E, Suno, SoulMachine

**Language:** Mandarin (native), Spanish (intermediate), Japanese (intermediate), Korean (basic)

## EXPERIENCE

### Cleolabs AI (startup)

Chicago, IL

#### AI Software Engineer

March 2024 - August 2024

- Ideated and built web app in Python and JavaScript for children with autism to engage with AI speech therapist, leveraging Node.js, Quart, Azure, MongoDB, SoulMachine, DALL-E, ChatGPT, and Llama
- Collaborated with speech therapists to devise metrics for tracking children's communication improvements on platform
- Won 3rd place among 50 teams in 2024 Chicago Booth Global New Venture Challenge with \$15,000 award

### Chicago Trading Company - Data Science Clinic, University of Chicago

Chicago, IL

#### Data Science Intern

March 2024 - May 2024

- Led development of automated X data collection and preprocessing pipeline in Python, and created API endpoint for team data access to expedite model development, leveraging Flask, AWS EC2, S3, and Retriwt API
- Increased data volume tenfold and model accuracy by 3%

### Outlier AI

Oakland, CA

#### Software Engineer - AI Consultant

February 2024 - May 2024

- Designed over 300 prompts to break large language models, assessed model responses through analytical commentary, and wrote over 15,000 lines of code in Python(Numpy, Pandas), SQL, and JavaScript based on constructed prompts

### University of Chicago, IT Services

Chicago, IL

#### Website Development Assistant

September 2023 - May 2024

- Developed and maintained over 100 departmental WordPress-powered websites throughout university within Web Services team, resolving 117 support tickets and offering consultation sessions to 58 academic directors and professors

### GridLink

Chicago, IL

#### Software Engineering Intern

January 2024 - March 2024

- Designed and built Python Flask-based benchmarking system to assess performance of EV fleet charging algorithms, facilitating automated test generation, time and memory data measurement, storage, and visualization in matplotlib

### Morningstar, Inc - Data Science Clinic, University of Chicago

Chicago, IL

#### Data Science Intern

September 2023 - December 2023

- Conceived and developed an ensemble-based fact-checking model in Python within four-member team using ChatGPT API to verify AI-generated reports from analysts' notes, achieving 80% precision and 95% recall in error identification

## PROJECTS

### Turtlebot2 Project([GitHub](#))

March 2024 - May 2024

- Implemented particle filter localization, Q-learning for item organization, and A\* pathfinding in Python rospy

### Pintos Operating System([GitHub](#))

September 2023 - December 2023

- Implemented thread scheduling, system calls, user program management, virtual memory, and file systems in C

### AWS Genomics Annotation Service

September 2022 - December 2022

- Built in Python, using Flask and AWS boto3 for EC2, S3, Lambda, SNS/SQS, Step Functions, DynamoDB, and Glacier

### UChicago Tech Community Challenge([GitHub](#))

March 2022 - May 2022

- Led a five-member team in developing a Ruby on Rails application to offer a course-scheduling platform
- Won "Best Use of Technology" and \$3,000 among 10 teams in 2022 UChicago Tech Community Challenge