

# Taichi Kato

http://taichikato.com

## EDUCATION

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**Amherst College** | B.A. in Computer Science, Mathematics | *Amherst, MA*

*Expected: May 2024*

- **GPA: 3.8/4.0**
- **Relevant Coursework:** Algorithms, Data Structures, Artificial Intelligence, Deep Learning, Computer Hardware, Computer Systems, Networks, Real Analysis, Abstract Algebra, Graph Theory, Combinatorial Optimization, Linear Algebra, and Advanced Microeconomics
- **Teaching Assistant** for Networks (2023F), Computer Systems (2022S)
- **President** of Entrepreneurs Society and Japanese Students Association. Member of Crew Team.

**United World College of South East Asia** | International Baccalaureate Diploma | *Singapore*

*May 2020*

- **GPA:** 43/45 (98<sup>th</sup> percentile)

## EXPERIENCE

**Microsoft** | Software Engineer Intern | *Redmond, WA*

*June 2023-August 2023*

- Designed and developed an automated distributed financial time series analysis platform with R, Spark, and Python, with first application in Volume Licensing Contract Forecasting.
- Led optimization initiatives for Finn, an open-source library for distributed time series analysis.
- Enhanced model robustness by introducing novel feature engineering techniques, directly contributing to improved forecasting capabilities.

**Microsoft** | Software Engineer Intern | *Redmond, WA*

*June 2022-August 2022*

- Developed RESTful APIs for visualizing third party compliance and fraud risk for due diligence
- Deployed statistical models as **Azure** microservices using **C#.NET**.
- Reduced human review hours by **18,000** per month with cost-savings of **\$3M** from prevented fraud cases.

**Questo AI** | Software Engineer (Co-founder) | *Singapore*

*November 2016-August 2020*

- Developed proprietary language model for generating questions from texts and images, using **Python** and **C**.
- Deployed the model as a web API to a distributed system using **Kubernetes**.
- Designed and developed an iOS interface for a image processing model using Swift.
- Generated **\$56,000** in revenue, received **\$160,000** in grants from Google and IBM, and generated **8,000** downloads.

**University of Tsukuba** | Machine Learning Research Intern | *Tsukuba, Japan*

*July 2018-August 2018*

- Developed a model to extrapolate 2D images to 3D voxels using a Generative adversarial network (**GAN**) with **PyTorch**. Advised by Professor Ochiai. Presented a poster on the research.

**Mercari, Inc.** | Software Engineer Intern | *Tokyo, Japan*

*June 2018-July 2018*

- Minimized the size of price prediction and object detection models **by 70%** using **Tensorflow** through quantization and pruning, allowing them to run on mobile devices without sacrificing accuracy.
- **Reduced the cost** required to process listings from **16 million** monthly active users
- Developed a service which gives real-time resell price predictions of objects via the iPhone camera.

**teamLab, Inc.** | Software Engineer Intern | *Tokyo, Japan*

*June 2017-July 2017*

- Developed a data provider and state management framework deployed across all company iOS apps, using **Swift**.
- Was the youngest employee at 15 years old. Also given a full-time return offer.

## PROJECTS

- **FPGA Arbitrage Bot (2023):** Used Verilog to accelerate a moving average filter on an FPGA board, which was then used to simulate trading strategies like pair trading on correlated assets.
- **Minerva (2023):** Awarded **Overall Winner** (Won \$3000 in prizes, 600+ participants) at HackUMass 2023. A classroom simulation for educators to improve lectures through modelling student comprehension, using LLM agents and simulated teacher student interaction. Built with **Semantic Kernel, Python and React**.
- **Solar Cell Material Discovery (2022):** Used evolutionary computing to create an approximate model for solar cell efficiency as a function of its quantum properties. Developed with **Clojure**.
- **UChicago Trading Competition (2021):** Developed a live **price model** for FX futures based on market quotes, interest rates data, and historical prices using Python. Created a market making bot to automatically place asks and bids following a risk limit.
- **Zipcall (2020):** Developed multi-client decentralised video-calling service using **React** and **Javascript**. **100K MAU**.
- **Kafka NLP (2020):** Developed the first-ever open-source implementation of dependency parsing on iOS