Tetsuro Kai

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EDUCATION

University of Southern California, M.S. in Computer Science   Aug 2021-Exp. Dec 2023
Tokyo Institute of Technology, M.S. in Biological Information   2009-2011
Tokyo Institute of Technology, B.S. in Biotechnology   2005-2009

PROFESSIONAL EXPERIENCE

Polymath NYC - PolymathNYC.com   Los Angeles & New York City
Full-Stack Engineer & Career Consultant - Co-founder   2022-Present
- Co-founded a startup 'Polymath' with fellow engineers to support international candidates to study abroad
- Created a responsive website using React and deployed it onto Google App Engine
- Provided free consultations to 18 clients and signed 3-month support contracts with 4 of them
- Developed a database in Amazon RDS for PostgreSQL to store data used in programming education courses

MUFG Bank   Tokyo
Regional Trading Head, Currency Option - Vice President   2020-2021
- Led the largest portfolio with a $20M revenue target as a regional trading head covering Tokyo, London, and New York
- Supervised four junior traders and provided biweekly training on a mathematical foundation of derivatives
- Introduced data-driven pricing and increased transactions volume with Tier 1 financial institutions by 30 percent
- Improved pricing accuracy and speed using Python by managing the volatility pricing matrix in real time by automatically feeding and analyzing market data such as historical volatility
- Led a trading system renovation project from requirements definition to user acceptance testing, ensuring the functional and UI quality of the system involving a total of 100 sales and traders

New York City
Chief Trader, Currency Option - Vice President   2017-2020
- Promoted fastest among 7 colleagues and transferred to New York to lead the currency option team
- Reduced 70% of the pricing workload using Python by automatically feeding pricing requests from sales and calculating additional costs based on market conditions

Tokyo
Option Trader, Associate   2011-2017
- Programmed a position sheet by VBA that aggregates derivatives risks for 10 Asian and European currencies output from 3 systems, summarized them by risk type, and automatically calculated the maximum drawdown for risk scenarios
- Built a web scraper with Python to retrieve odds data on important market events from betting sites, then programmed the information to be automatically sent out to the trading group daily

TECHNICAL SKILLS

- **Languages:** Python, Java, JavaScript, C++, TypeScript, Swift, HTML/CSS, VBA
- **Technologies:** Angular, React, NodeJS, Flask, Scikit-Learn, PyTorch, PostgreSQL, MongoDB, AWS, GCP
- **Financial Engineering:** Derivatives Pricing, Portfolio Management, Risk Control

PROJECTS

Stock Search & Virtual Trading app   2022
- Programmed a cross-platform app that retrieves and displays stock information and enables virtual trading with Angular and Swift
- Built the backend in NodeJS fetching real-time stock quotes, top news, and social sentiments from the Finnhub API
- Enhanced user experience with asynchronous data retrieval and time-series data visualization using HighCharts

Wave Prediction app   2021
- Developed an interactive SMS chatbot in Python using AWS Lambda, Pinpoint, and SNS to provide wave forecasts for major surfing spots in California