

# Taro Tanaka

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## EXPERIENCE

### AAA Company

*Data Scientist and Engineer*

*Jul 2020 - Jun 2023, Tokyo, Japan*

#### Acceleration of Multivariate Testing

- Led team of 7 in collaborative project with the UI/UX team to enhance multivariate testing processes.
- Developed and implemented mathematical models to address UI/UX challenges, translating academic research into Python code.
- Optimized web application testing by applying "best arm identification" algorithm from multi-armed bandit theory, reducing the number of test patterns and improving conversion rates by 8%.

#### Recommendation System for Real Estate Webpages

- Developed machine learning API to provide personalized property recommendations on real estate webpages, enhancing user experience by aligning suggestions with customer preferences.
- Chose LightGBM for the recommendation engine due to its compatibility with BigQuery data, achieving 5% increase in recall@5 compared to existing models.

#### Data Validation System

- Participated in developing system to detect data anomalies that could impair machine learning models, including recommendation systems, preventing significant profit loss.
- Implemented wrapper interface for AWS Deequ, the core module of system, and developed extensions for various use cases in Scala.

### BBB company

*Web Engineer and Math Teacher*

*Apr 2019 - Mar 2020, Kyoto, Japan*

#### Web Page Development and Maintenance

- Deployed websites to promote the founder's initiatives, attracting prospective students and enhancing online visibility.
- Built the websites using 3-tier architecture, implemented in Python with Flask framework; containerized with Docker for streamlined maintenance and deployed on GCP to optimize costs.

### CCC company

*Quantitative Analyst and Engineer*

*Apr 2018 - Mar 2019, Tokyo, Japan*

#### Price Calculation Module for Binary Options

- Led development of price calculation library, collaborating with IT system department to launch new binary options products (type of financial derivative).
- Developed Python library from scratch based on the Black-Scholes model to accurately price binary options.
- Replaced outsourced system, enhancing work efficiency and reducing operational time by 3 hours weekly.

#### Monitoring of CFDs (Contract for Differences)

- Developed batch processing system to visualize bid prices, trade records, and revenues of CFDs by extracting transaction data from Oracle and creating plots using Python.

## SUMMARY

Skilled data scientist specializing in machine learning and financial engineering with 4 years of experience. Persistent dedication, analytical prowess and strong soft skills for fostering collaborative work relationships.

## SKILLS

<b>Back End</b>	Python, C++
<b>Front End</b>	HTML, CSS, JavaScript
<b>DBMS</b>	BigQuery, Oracle
<b>OS</b>	macOS, Linux(CentOS)
<b>DevOps</b>	Docker, GitLab, GitLab CI
<b>Misc.</b>	AWS, GCP, $\text{\LaTeX}$
<b>Soft Skills</b>	Resilience, Attentiveness

## EDUCATION

### AAA University

**Tokyo, Japan**

*Master of Science - Mathematics*

GPA: 3.75/4.00

### BBB University

**Tokyo, Japan**

*Bachelor of Science - Mathematics*

## SCORES

### IELTS (General Training)

Overall: 7.5

### AtCoder

Rate: 1800+, Solved problems: 1800+

### LeetCode

Rate: 2400+, Solved problems: 800+

## LANGUAGES

- Japanese (Native)
- English (Advanced)

## INTERESTS

- Learning Languages
- Fitness
- Classical Piano