# 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**

**Back End** Python, C++

Front End HTML, CSS, JavaScript

DBMS BigQuery, Oracle

OS macOS, Linux(CentOS)

DevOps Docker, GitLab, GitLab CI

Misc. AWS, GCP, LATEX

**Soft Skills** 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