Shinichi Takayanagi, Ph.D.

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Senior Data Scientist Profile

Motivated, curious, and experienced Data Scientist & Software Engineer with a talent for creating state-of-the-art solutions for complex problems that leverage the latest developments in machine learning and statistical science.

Offering more than 15-years of professional experience in a variety of engineering and data scientist roles that require excellent analytical abilities and a high tolerance for ambiguity. Keen aptitude for defining, creating, and implementing scalable solutions that resolve unique business problems and challenges across multiple industries. Dedicated to initiate projects to completion even though in a scrappy environment, all while maintaining adherence to project timelines, budgetary guidelines, and service level agreements. Poised to build trust and rapport with business stakeholders and learn new processes, systems, and technologies with prompt efficiency.

Areas of Expertise

- Statistical Science
- Machine Learning
- Algorithm Implementation
- Experiment Design
- Data-Driven Problem Solving
- Full Lifecycle Project Delivery
- Quantitative Analysis
- Marketing Optimization
- Web Business

Accomplishments

- Spearheaded development and launch of new functionalities that prevented churn and contributed to increasing monthly recurring revenue (MMR) by 40% whilst serving as Applied Data Scientist at Uzabase, Inc.
- Building influential business case scenarios and presenting to executive board members to win influence and make significant contributions to improving the customer experience for churn prevention.
- Leveraged advanced knowledge in data science and system development to improve B2C reservation website that yielded a year-over-year profit of approximately a billion in JPY.

Career Experience

Uzabase, Inc., Tokyo, JP **2020 – Present**
Applied Data Scientist

Appointed to position to use a machine-learning algorithm to produce and manage an account-based marketing system that acts as a company recommendation engine. Lead interface with customers and other key stakeholders to discuss business needs and alignment of products to key priorities.

- Orchestrated development, deployment, and management of a large-size crawler (about 10million crawl per month) that enabled customers to have the ability to collect company website data using AWS Batch, AWS Lambda, and Amazon S3 Batch Operations.
- Succeeded in designing, and building the entire search system that used NLP, FastAPI, RDB, and Elasticsearch to perform minor word searches on a variety of company websites.
- Conceptualized and implemented new features steadily that reduced churn and increased MMR by 40%.

LINE Corporation, Tokyo, JP **2017 – 2020**
B2B Data Engineering & Data Science Team Manager

Provided day-to-day leadership and direction to a team of five data scientists and engineers in full lifecycle delivery of B2B business and data projects. Owned responsibility for designing a system for fraud detection, KPI prediction, and anomaly detection system on large sets of advertisement data.

- Increased sales every year by designing A/B tests to improve the unit price of ads (eCPM) and the number of impressions, achieving several hundred million in JPY sales as a result.
- Designing the system architecture of fraud and anomaly detection, and prediction of KPI using OpenStack-based private cloud.
- Highlighted uses of R on the engaging poster, useR! 2018 and presented successfully to executive teams.

Recruit Communications Co., Ltd., Tokyo, JP **2014 – 2017**
Machine Learning Engineer

Supported planning and implementation of data science techniques to develop systems using machine learning algorithms. Reviewed recommendations for demand forecasts and hypothesis verification.

- Triggered revenue growth of nearly a billion in JPY after leading the significant improvement of website system for hair salon and travel reservations using machine learning (recommendation).
- Launched research on determining basic verification of Quantum computer, D-Wave, and application in AWS; presented findings in Shu Tanaka Journal of the Physical Society of Japan, 88, 061010 (2019) 10.7566/JPSJ.88.061010

Mizuho-DL Financial Technology Co., Ltd., Tokyo, JP **2008 – 2014**
Financial Engineer

Tasked with analyzing massive amounts of financial market data using statistical hypothesis testing, VAR, VECM, and Kalman/particle filtering. Used data to build a bond portfolio optimization tool for fund managers.

- Demonstrated exceptional ability to work effectively with representatives from other departments to create quality financial products and deliver excellent service.

Additional Experience

Visiting Associate Professor, Tokushima University
Secretary, Information Processing Society of Japan Big Data Research Group
Executive Vice President, HOXO-M Inc., Tokyo, JP
Software Engineer, Foundation for Promotion of Material Science & Technology of Japan, Tokyo, JP

Education

Doctor of Philosophy in Statistical Science
The Graduate University for Advanced Studies (SOKENDAI), Kanagawa, Japan

Master of Science in Physics
Hokkaido University, Hokkaido, Japan

Bachelor of Science in Physics
Hokkaido University, Hokkaido, Japan

Qualifications

Software Design & Development Engineer
Passed Level II Examination of CMA Programme
English Level: Business TOEIC Score 910

Technical Proficiency

Python, Scala, SQL, R, C++, AWS, GitHub, CI/CD, Quantum Computer, Tableau, Ansible, VBA, Excel

Publications

1. Takayanagi, S., & Iba, Y. (2018). Backward Simulation of Stochastic Process Using a Time Reverse Monte Carlo Method. Journal of the Physical Society of Japan, 87(12), 124003.
2. Tanahashi, K., Takayanagi, S., Motohashi, T., & Tanaka, S. (2019). Application of Ising machines and a software development for Ising machines. Journal of the Physical Society of Japan, 88(6), 061010.
...see my Google Scholar for more.

Book Publications:

1. Introduction to Financial data analysis by R, Kyoritsu Shuppan Co., Ltd. (ISBN 978-4320123717)
2. Advanced R, Kyoritsu Shuppan Co., Ltd. (Translation, ISBN 978-4-320-12393-9)
3. R for Everyone, Mynavi Corporation (Translation, ISBN 978-4839955212)