

SHINNOSUKE TANIYA

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Education

Harvey Mudd College

Aug 2018 – May 2022

Bachelor of Science in Computer Science (Dean's List) | GPA: 3.60 (Honors)

Claremont, CA

Relevant Coursework

Computer Science and Mathematics: Algorithms, Artificial Intelligence, Computability and Logic, Computer Systems, Computer Vision, Data Structures and Program Development, Natural Language Processing, Programming Languages, Software Development, Differential Equations, Multi-variable Calculus, Probability and Statistics

Skills

Programming: ASM, Bash, C, C++, HTML5 & CSS, Java, JavaScript, MATLAB, Python, R, Racket, Ruby

Expertise: Application Scaling, Big Data Analytics, Command Lines, Cloud Computing, Database Administration & Infrastructure, DevOps Practices, Security Compliance, Software Development Lifecycle Tools, Version Control

Spoken Languages: English and Japanese (Bilingual Proficiency), Chinese (Professional Proficiency — HSK VI certificate)

Experience

Schmidt Academy for Software Engineering at Caltech

Aug 2022 - Current

Lead Developer For Zwicky Transient Facility(ZTF) Quarter Century Sky Project 🌐

Pasadena, CA

- Designing MongoDB and PostgreSQL archives equipped with a photometry data reduction pipeline, API, and a Web (React) GUI, working with ZTF researchers and external stakeholders to enable bulk retrieval of lightcurve metadata.
- Leading engineering team using Agile to devise machine learning algorithms in Python to automate the standardization of time series data from the Catalina Real-Time Survey and the Palomar Transient Factory to offer spatiotemporal baselines for observational astronomy on decade timescales.
- Optimizing ZTF difference imaging pipeline to improve detection efficiencies through analytical calculations of fluxes and uncertainties.

Revorf - Bioinformatics Firm

Oct 2020 - Aug 2022

Lead Developer | R&D Scientist 🌐

Tokyo, Japan

- Led the development efforts to design and implement an AWS data flow ecosystem that improved the company's ability to perform cost-effective and efficient processing of Big Data containing RNA and other functional products.
- Took leadership in the contract with Toshiba Digital Solutions to employ their Simulated Bifurcation Machine+ to obtain an optimal solution to a combinatorial problem involving predicting allosteric regulatory sites for proteins.
- Created a Tkinter GUI framework to enhance the discovery of gene diagnostic agents and defined the product's value proposition to align with the market needs of business partners: RIKEN, top Japanese universities, and significant diagnostic drug development firms.

Schmidt Academy and Harvey Mudd College (Partnership)

Aug 2021 - May 2022

Technical Project Manager For Cai Lab Clinic Project 🌐

Claremont, CA

- Oversaw team using Jira to manage Clinic project to visualize spatial genomics for biology and translational medicine (PM tasks: activity & resource planning, team & time & project risk management, progress monitoring & updates).
- Developed a data pipeline to analyze high-dimensional spatial genomic data from seqFISH+ experiments and configured an appropriate file format (Cloud Optimized GeoTIFFs) for storing data in AWS S3.
- Worked with Cai Lab scientists and engineers to provide flexibility to parse genomic data to discover new biological insights, such as identifying phenotypic differences between gene expression targets.
- Developed an AWS Amplify React interface that allows researchers to access, visualize, and analyze the data.

CYBEX and LongHash (Partnership)

Jan 2018 - Aug 2018

Core Developer For Decentralized Cryptocurrency Exchange

Tokyo, Japan & Shanghai, China

- Developed a full-stack hardware cold wallet in C for EOS and stabilized the CYBEX crypto exchange platform.
- Developed Telegram bots in Python to improve customer experience, crypto transactions, and anti-spam software.
- Organized a hackathon inviting developers to integrate new decentralized security features, moderated several international blockchain events, and served as a trilingual interpreter (Japanese, English, Mandarin) at the events above.

Leadership

Harvey Mudd College: Honor Board - Elected to serve as the senior representative for the college's student conduct system | Pan-Asian Identity and Culture Group Member | Entrepreneurship | Club Tennis

Human Rights Watch Journalism Intern: Worked on these issues between Sep 2014 - Sep 2018 - International Justice, North Korean and Syrian Refugees, LGBTQ, Women's and Children's Rights, Migrant's Rights | Created a service project and helped create a documentary to raise awareness for LGBTQ members in the Japanese community.

Global Citizens Initiative (GCI) Teaching Assistant: Led and mentored a group of students to assist them with their Global Service Project to create an advocacy campaign around select non-profit organizations.