Tai Sanh Nguyen

Full-Stack Software Engineer

Portfolio: taisnguyen.github.io
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Education

Princeton University B.S.E., **Computer Science**, minors in **Applied Mathematics** & **Engineering Physics** **2022—2026**
QuestBridge Scholar GPA: **3.4/4.0**

Relevant CS Coursework: Algorithms and Data Structures, Computer Systems, Programming Systems, Computational Theory
Relevant EGR Coursework: Differential Equations, Linear Algebra, Multivariate Calculus, Discrete Mathematics

Work Experience

Software Engineer Intern @ *Fusion Systems Group* *Tokyo, Japan* **Summer 2023**
- Revamped UI/UX for a robust F&B SaaS system serving 1028+ restaurants, meeting client specifications in bi-weekly Agile sprints, developing using React, Redux, and Semantic-UI.
- Spearheaded key feature implementations for an upcoming product launch, adhering to an iterative, data-driven methodology based on client testing and user data.
- Enhanced and extended a RESTful API within a microservices architecture, ensuring scalability and adherence to SOLID principles using Django, Flask, PostgreSQL, and AWS.

Machine Learning Intern @ *QuantCap* *Miami, FL* **Winter 2022**
- Analyzed, prepared, and modeled data with ML libraries in Python, including scikit-learn, pandas, NumPy, and seaborn. Yielding 70%+ accuracy on classification tasks, utilizing Kelly criterion to net profits on simulated environments.
- Designed and implemented backend microservice serving .csv files exposing CRUD endpoints, allowing the persistence and retrieval of aggregated data with Flask and pandas.

Software Engineer Intern @ *Broward County Public Schools* *Pompano Beach, FL* **Summer 2021**
- Architected and managed the front-end and back-end of a modular-based management web application using ASP.NET Core, C#, MSSQL & T-SQL, and JS libraries.
- Transformed paper-based documentation workflows into a digital platform (above application), saving hundreds of work hours and drastically improving overall work experience.
- Modeled relational schema (UML) for seamless integration with MSSQL & RDBMS, leveraging .NET Entity Framework ORM for efficient data handling.

University Activities

Software Engineer @ *Hack4Impact* **2023 — Present**
- Kickstarted and developing full-stack platform for NJTree non-profit to log and track trees it plants across New Jersey.

Spaceport America Cup Competitor @ *Princeton Rocketry Club* **2023—Present**
- Designing and implementing dashboard application to communicate with and display avionics and during-flight data to on-ground team. Working to launch fully team-built rocket to up to 30,000 feet, deploying drone payload, and recovering both.

Software Engineer @ *The Daily Princetonian Publishing Co.* **2022—Present**
- Refactored and deployed business site by 1) Improving the dynamic templating of data on the front-end, 2) Implementing RESTful upload endpoint for authorized end users to perform CRUD operations on site data, and 3) Through the upload endpoint, decoupled the responsibilities of the business team from the developers'

Director of Development & Project Manager @ *ResInDe* **2022—Present**
- I lead a subteam for the official Princeton University's Site Builder (PSB), where I am responsible for managing a team of over 7 developers and UI/UX researchers.
- The main goals of the project is broken up into 3 segments: 1) UI/UX research on current university/EdTech UI/UX trends, and cumulating it into a design report; 2) implementation of UI/UX designs on tools such as Figma; 3) Deliverables for software implementation.

National & States Champion Programming @ *Business Professionals of America (BPA)* *Orlando, FL* **2021—2022**
- 1st Place Nationals (US) C++ Competition & 7th Place Nationals (US) Python Competition
- 1st Place States (FL) C++ Competition & 1st Place States (FL) Python Competition.

Projects

- **NJTree Tracker Map** A dynamic full-stack app for a non-profit, integrating an interactive map to track and showcase their tree planting efforts. Users can easily explore and visualize the planted trees, fostering transparency and engagement with the organization's environmental initiatives.
- **Pupil Mentorship Platform** Collaborated in development on platform connecting FGLI and marginalized students with mentors, promoting inclusivity and academic support to empower underserved students for success.

Technical Skills

Programming Languages C#, Java, Python, JavaScript, TypeScript, Go, HTML, CSS
Frameworks / Technologies NodeJS, React, Django, Flask, SQLAlchemy, ASP.NET Core, AWS RDS & DynamoDB, SQL(s), Git