Sina Fallah Ardizi

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Education

New York University Sep 2020 – May 2024

Bachelor of Science, Computer Engineering New York, NY

- *Relevant coursework: Artificial Intelligence, Computer Architecture, Computer Networking, Data Structures and Algorithms, Databases, Embedded Systems, Java and Web Design, Machine Learning, Operating Systems*

Skills

Programming Languages: Python, Java, C++, SQL, JavaScript, HTML
Development: CI/CD, Test Driven Development, Debugging, Kanban
*Technologies: Git/*GitHub, Docker, NodeJS, React, REST API, Kubernetes, Jenkins, MongoDB, *ML*

Experience

Machine Learning Developer Oct 2024 – Present

University of Toronto Machine Intelligence Students Team (UTMIST) Toronto, ON

A collaboration between UTMIST and Lovelytics to develop a task automation web application.

- Used **Python** to develop a suggestion system with Trie, **pandas**, and **Sentence Transformers**, helping users find relevant job titles approximately **45% faster**.
- Developed **SQL** queries to retrieve tasks by job title from the O*NET database.
- Optimized **DSPy pipelines** to refine prompts for seamless integration with **LangChain**'s **OpenAI API**.

Teacher Assistant (Data Structures and Algorithms) Sep 2022 – May 2024

New York University New York, NY

- Taught Data Structures and Algorithms to **150+ students** using **Python**.
- Led weekly programming classes to improve students' coding skills and efficiency.
- Developed LeetCode-style questions to challenge and enhance problem-solving abilities.
- Applied new teaching strategies, increasing class **engagement by 33%** and achieving a **93% satisfaction rate**.

Machine Learning Engineer Sep 2022 – Sep 2023

Flexible AI-enabled Mechatronic Systems Lab (FAMS) New York, NY

- Trained an object recognition model with **Python**, **YOLOv5**, and **Google Colab** for a surgical robotic arm.
- Led a team of 6 to develop a kinematics-based movement algorithm, increasing arm accuracy from **40% to 85%**.

Projects

Responsive Website Sep 2024 – Present

- Designed and deployed a responsive personal website using **JavaScript**, **HTML**, and **React**.
- Reduced mobile loading **failures from 85% to 5%** by optimizing website performance for hardware limitations.
- Improved small-screen compatibility with responsive design, including a hamburger menu and optimized layouts.
- Added interactive elements and animations with **CSS** for a dynamic user experience.

News Bias Analysis (SWEES) Oct 2023 – May 2024

A full-stack web application that analyzes news article bias via user-submitted links or text inputs.

- Led a team of 5 students, using **Kanban** for task delegation and weekly stand-ups to ensure alignment.
- Implemented endpoints with **Python** and modeled user and article databases in **MongoDB**.
- Executed **Pytest** cases and maintained **documentation** to ensure functionality and code readability.
- Integrated **GPT-3.5 Turbo** into the app using **MongoDB Atlas** and **LangChain**, with **web scraping** for data input.

Personal Learning Assistant (PAL) Apr 2024 – May 2024

An educational application designed to enhance learning experiences by enabling users to manage academic resources.

- Engineered a full-stack **Java** application with **JDBC** integration, secure login, and frontend/backend management.

Air Ticket Reservation System Sep 2023 – Dec 2023

A web application enabling customer flight bookings and airline staff management of flight and aircraft data.

- Developed a relational **SQL** database to manage tickets, staff, etc., including schema design and implementation.
- Built a full-stack **Python**-**Flask** application with login sections, flight search, ticket purchasing, and additional features.

Publications

Inference Offers a Metric to Constrain Dynamical Models of Neutrino Flavor Transportation

Armstrong, E., Patwardhan, A. V., Rrapaj, E., Fallah Ardizi, S., Fuller, G. (2020). Inference offers a metric to constrain dynamical models of neutrino flavor transportation. Physical Review D,102(4), 043013. https://doi.org/10.1103/PhysRevD.102.043013