Changxuan Fan

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Education

Boston University Sep 2021 – Present
*Bachelor of Arts in **Computer Science*** GPA: **3.90** /4.0

Research Experience

Research Developer Jan 2024 – Present
Boston University, Platform Governance Research Lab
*Submitted Paper "Reducing Misleading Claims in Digital Marketplaces Using Truth Warrants" to **CHI'25***

- Leading a team to design and execute a marketplace experiment with interactive games for **100+** users on the Empirica Lab platform, using React, to reduce misinformation in digital and political spaces.
- Using **GitHub** and **Agile** methodologies for collaborative game development, deploying games on **Google Cloud**.
- Conducting data collection, visualization, and analysis using **pandas** and **matplotlib** to support research findings.
- Awarded a **$6,000** Undergraduate Research Opportunity Program (UROP) Scholarship for outstanding research efforts.

Research Assistant May 2024 – Present
Boston University, with Professor Adrian Whitty and Professor Xuezhou Zhang

- Building Graph Neural Network (**GNN**) models to improve permeability prediction for macrocyclic compounds.
- Using Explainable Boosting Machine (**EBM**) models to analyze and explain permeability for different conformers.

Work Experience

Data Analyst Intern June 2024 – August 2024
Mechdyne Corporation, Naperville, IL

- Developed a real-time dashboard for managing and visualizing Virtual Reality (**VR**) user interactions, providing dynamic data insights and enhancing user experience tracking.
- Created visualizations with Python (Matplotlib, Seaborn), cutting analysis time by **25%** and designing 3 key metrics.
- Refactored legacy code, boosting system efficiency by **40%** and cutting load times by **50%** for **10+** interfaces.

Teaching Assistant Jan 2024 – May 2024
Boston University, Boston, MA

- Led discussion sessions for over **50** students, supporting through office hours, and giving constructive feedback.
- Created **Latex**-based assignments with tailored questions to reinforce core **Data Science** principles.

Software Engineer Intern May 2023 – Aug 2023
EHZ IT, Suzhou, Jiangsu, China

- Developed software for **Spectrum Map** using **Spring Boot**, improving data processing efficiency and retrieval speed by **30%**, reducing manual input by **50%**, and designing SQL databases to handle **1 million+** records.
- Collaborated with a cross-functional team of 5 engineers to enhance system performance, leading to a **25%** increase in backend scalability and reliability.

Course Grader Jan 2023 – May 2023
Boston University Boston, MA

- Built and deployed a C++ automated grading system on **Google Cloud**, resulting in a **90%** increase in productivity.
- Assessed quizzes and exams in **OCaml** and **SML** and used Python for performance analysis across over **150** students.

Projects

Massachusetts High School CS Education Data Analysis – *CS 506 Project* Sep 2023 – Dec 2023

- Led a team analyzing **10** years of CS education data from **200+** districts to inform funding decisions.
- Created heat maps with Geopandas, visualized data with **Matplotlib/Seaborn**.

Enterprise Private Cloud – *Persona Project* May 2023 – Aug 2023

- Developed a file management system using **Spring Boot** with Role-Based Access Control (RBAC) for permissions.
- Built **REST** APIs, integrated **AJAX**, and used **Vue**, **MySQL**, and **Linux** for deployment.

Technical Skills

Programming Languages: Python, Java, C/C++, MySQL, NoSQL, JavaScript
Software Development: PyTorch, Scikit-learn, Spring Boot, React, Node.js, pandas, NumPy, Docker, Git, Google Cloud