

Sirui Li

Education

New York University

Manhattan, New York

B.A. in Mathematics and B.A. in Computer Science

Sep. 2022 - Present

GPA 3.926 Relevant Courses: Discrete Math: A Multi-variable Calculus: A MATH 54: Linear algebra and differential equation: A

Work Experience

300K.xyz, Software Development Engineer

Beijing, China, Jun. 2023 - Sep. 2023

- Developed APIs for querying data from a DEX exchange server, enhancing efficiency and reliability by 50%.
- Deployed Python programs using Docker, increasing scalability and flexibility of the application by 30%.
- Deployed program to parse trade data, pre-process raw data for further quant analyze
- Implemented code formatters like isort, Black, and flake8 to standardize code style, promoting seamless collaboration within the team.
- Designed a validator to ensure data continuity and an algorithm to fill missing dates and return longest continuous dates, improving machine learning efficiency by 30%.
- Utilized Mock and Patch for rigorous unit testing, ensuring program correctness and security.

Research

Investigating when eigenfunctions for ODEs can be generated from invariant manifolds

Manhattan, New York

Research Assistant Under Prof. Megan Morrison

Jan. 2023 - Present

- Conducted research on utilizing Koopman operator theory to linearize non-linear ordinary differential equations
- Wrote a python program to predict eigen functions

Biovision AI Lab, Research Assistant

Remote, Jun. 2023 - Present

- Employed OpenMMLab framework, trained a model to classify tumor

Project

Sentimental Extraction of Stock News , SDE/Data Analyst

Manhattan, Feb.2023-Present

- Conducted a project on sentimental analysis to develop a product that analyzes recent news on the market and predicts its impact on the stock market in real-time
- Implemented multi-threading techniques, improving the speed of the project by over 80%
- Employed tokenizing words and sentences, removing stop words, and performed word stemming and lemmatization
- Employed word2vec algorithm, entity extraction, event extraction, clustering algorithm
- Utilized tf-idf matrix to assist in data cleaning process and improve accuracy of analysis

Meal Pair platform (Java) , Full Stack Developer

Manhattan, Dec. 2022 - present

- Developed a meal pair platform for socializing by dinner
- Utilized SpringBoot, Servlet, server, AOP, Tomcat, Inverse of Control, Maven, Annotation development, XML file development, etc
- Employed Model-View-Controller (MVC) framework to ensure program stability, decoupling, and scalability
- Integrated Thymeleaf as the front-end technology and MySQL as the database management system

Experience

Algorithm Contest

Manhattan, New York

Competitor/Team Leader

Feb. 2023

- Attended ICPC qualifying algorithm contest using Dynamic Programming, DFS, PFS, divide and conquer, etc
- Got top 40% from the ICPC Regional Greater New York.
- Trained for algorithm contest every Friday for 2 hours, learning about Heap, Maximum Flow, Minimum Spanning Tree, etc.

Hackathon

Competitor/Team Leader

- HackPrinceton *Princeton, NJ* May 31 - Apr 2, 2023
 - Developed "TripGenie," an AI agent for planning travel journeys, using Flask with full-stack development.
 - Integrated Davinci API for generating travel plans based on user preferences, including location, budget, and days of travel.
 - Utilized AI-generated API for image generation through Midjourney, creating visual representations of travel activities.
 - Produced three detailed daily travel plans with closed prices, including cost of food, activities, travel, and hotel.
- HackNYU *Manhattan, New York* Feb.2023
 - Developed "Professional Project Leader", an interactive game that simulates gender inequality experiences for users.
 - Utilized Pygame to develop the game's graphics and user interface
 - Developed Natural Language Processing model to test for potential gender-biased language in user comments
 - Accelerated the language process by 90% by linear regression model and vectorization, leaving interface for binary models
 - Leaved the interface to integrate Chat GPT API to provide descriptive feedback to users

Gitlet (Java)

Berkeley, California

Designer/Programmer/Tester

Jun. 2022 - Aug. 2022

- Developed a Java-based Version Control System with cryptographic hashing and file persistence
- Replicate fundamental Git system features through decoding and testing

Awards and Honors

Feb. 2023

Contest: "Best First Time Hacker" with 200 dollar prize in the Hackathon at New York University

Manhattan,
New York