Sirui Li

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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: In Progress

University of California, Berkeley   *Berkeley, California*

Summer School   Jun. 2022 - Aug. 2022

GPA:3.8   Relevant Courses: 61B: data structure: A-   MATH 54: Linear algebra and differential equation: A

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
- Proficient in solving various types of differential equations including linear, separable, exact, Bernoulli, and systems of equations.

Project

Meal Pair platform (Java)   *Manhattan, New York*

Designer/Programmer   Dec. 2022 - present

- Designed and developed a meal dating platform utilizing SpringBoot, Servlet, server, AOP, Tomcat, Inverse of Control, Maven, Annotation development, and XML file development
- Optimized development time by over 50% through strategic use of technology stack and development methodologies
- 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
- Implemented party size restrictions to facilitate efficient and effective event planning for 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

2-D World Exploration Game (Java)   *Berkeley, California*

Designer/Programmer/Tester   Jul. 2022 - Sep. 2022

- Created an interactive, procedurally generated game world using Java programming and the StdDraw library
- Devised and implemented custom algorithms to generate connected spaces
- Developed a bespoke user interface for rendering walls, characters, and other interactive elements

Experience

Automatic Tooling of Stock Sentiment Extraction   *Manhattan, New York*

Project Assistant/Data Cleaner   Feb.2023 - Present

- Started a program scrape News from Google API and Python, cleaning the data for next stage

"Professional Project Leader"-Raising Awareness of Gender Bias   *Manhattan, New York*

Team Leader/Programmer   Feb.2023

- Designed and programmed "ProfessionalProjectLeader", 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

Algorithm Contest   *Manhattan, New York*

Competitor/Team Leader   Feb. 2023

- Attended ICPC qualifying algorithm contest using Dynamic Programming, DFS, PFS, divide and conquer, etc
- Trained for algorithm contest every Friday for 2 hours, learning about Heap, Maximum Flow, Minimum Spanning Tree, etc.

Personal Website   *Manhattan, New York*

Blogger/ Website Builder   2023 - present

- Built a personal website with my own domain with GitHub Pages and Hexo that automatically convert .md file to website
- Posted tutorials and my insight for Java programming with Annotation and for Website development

Awards and Honors

                                                                                        Manhattan,
Feb. 2023   **Contest**: "Best First Time Hacker" with 200 dollar prize in the Hackathon at New York University   *New York*

Technical Skills

Programming   Java, Spring framework, Python, Pygame, HTML/CSS, JavaScript, Node.js, SQL, Web Development, Swift, NLP