Kevin Shang (He/Him/His)

Undergraduate at University of Massachusetts Amherst

435 Park Street, North Reading, MA 01864

(781) 666-0108-shangk2015@gmail.com-LinkedIn-GitHub

Education

Bachelor of Science in Computer Science and Mathematics (Concentration in Statistics and Data Science) *Expected Graduation: May 2025*
University of Massachusetts Amherst, GPA: 3.578, Dean's List

Relevant Coursework: Multivariate Calculus, Linear Algebra, Data Structures and Algorithms, Computer Systems Principles, Abstract Algebra, Statistics, Reasoning Under Uncertainty, Differential Equations (*Summer 2022*), Computation (*Summer 2022*), Practice and Application of Data Management (*Summer 2023*), Artificial Intelligence

Extracurriculars: Data Science Club, Phi Mu Alpha Sinfonia-Sigma Alpha Chapter (*Fall 2022-Present*), Marching Band (*Fall 2021-Spring 2023*)

Work & Leadership

Phi Mu Alpha Sinfonia *August 2023-Present*
Treasurer

- Preserving accurate records of chapter account and transactions, as well as updating the general ledger
- Organizing fundraiser events and co-chairing Social Finance Committee meetings to plan semester activities
- Ensuring zero discrepancies in payments and accounts, and reporting all financial updates to the chapter

DoorDash *April 2021-Present*
Food Delivery Driver

- Maintaining five star customer rating while delivering food in timely and safe manner
- Managing time and orders while on the go, communicating through pickup and delivery

Purinomia Biotech *June 2023-July 2023*
IT Support Internship

- Provided desk-side and subject matter support for IT related services for employees in an office, clinical, and research laboratory setting
- Supported and troubleshooted system and network issues related to end-user, laboratory IT and VoIP equipment, according to standard operating procedures
- Collaborated directly with IT support teams for mission critical issues and adhere to department escalation policy
- Assisted with online data and documentation management

University of Massachusetts Minuteman Marching Band *August 2022-July 2023*
Section Field Staff

- Communicated with members and executive staff on plans and logistics
- Directed section rehearsals and instructed members on technique and etiquette

Skills & Interests

Programming and Web	Java, Python, C++, C, JavaScript, HTML, CSS, PostgreSQL, TypeScript
Tech	VSCode, pgAdmin, jGRASP, Pycharm Microsoft Office, Sony Vegas Pro
Language	English, Mandarin Chinese
Interests	Databases, Data Science, AI, Web Development, Music, Basketball, Weightlifting, Paleontology, Archaeology, Culinary Arts, Minecraft, Canto

Awards & Scholarships

John and Abigail Adams Scholarship
Scored in Advanced category in Math, English, and Science

Louis Armstrong Award
Received for outstanding performance in Jazz Band

Seal of Biliteracy (Mandarin Chinese)

North Reading High School Citizenship Award
Received for quality service towards the community and school

Projects

Ghostbusters (Python) *December 2023*
Course Project (Final Grade: 100)

- Implemented different **Bayesian Networks** with both **exact and approximate inferencing** onto Pac-Man and his ghosts
- Encoded Pac-Man to be able to track one or more invisible ghosts through their **noisy Manhattan distance** independently or together with a **joint particle filter**

Reinforcement Learning (Python) *November 2023*
Course Project (Final Grade: 100)

- Implemented **Q-learning** and **value iteration** onto different **MDP** agents with varying goals and factors
- Visualized and compared the importance of differing action selection policies (**exploration vs exploitation**)

Projects (cont.)

Promises and APIs (TypeScript, JavaScript) *November 2023*
Course Project (Final Grade: 100)
- Constructed **API** with given constraints, as well as from scratch, in order to display relevant data from an online **database**
- Utilized **promises** and the **Fetch API** in order to obtain data from multiple databases
- Created **application** with **user input** in order to display recipe given choice of protein and region

Multi-Agent Search (Python) *October 2023*
Course Project (Final Grade: 100)
- Applied different **multi-agent search algorithms** onto Pac-Man to visualize how he completes or fails mazes with ghosts
- Allowed Pac-Man to successfully complete mazes with simple **reflex agent,** as well as more complicated **minimax, alpha-beta pruning, and expectimax algorithms**

Pac-Man Search (Python) *September 2023*
Course Project (Final Grade: 100)
- Implemented different **search algorithms** onto a Pac-Man inspired interface with both preset and random mazes and goals
- Demonstrated **BFS, DFS, UCS,** as well as **A*** with multiple **heuristics** through Pac-Man's ability to navigate mazes and consume dots
- Compared the **time and space complexity** of different search algorithms by recording node visited and elapsed time

Personal Portfolio Website (HTML, CSS) *July 2023-August 2023*
Personal Project
- Built **custom** website with personalized images and graphics, **compatible** on both desktop and mobile devices
- Created skeleton, pages, and text with **HTML** and reformatted and restyled with **CSS**
- Connected website with an **embedded** google form to collect and save contact information and messages left by site users

Cryptography Bot (C) *May 2023*
Course Project (Final Grade: 100)
- Utilized **sockets** to communicate back and forth with **client**
- Received and deciphered multiple codes using **Caesar cipher**
- Sent ciphered code back to **server** which then checked for correctness

Comparing GPA(C) *December 2022*
Course Project (Final Grade: 100)
- Compared the GPA of a list of student **structures**, as well as keeping track of the student with the highest GPA
- Assembled an efficient and error-free function to compare student GPA through the use of **extern** and **static** type variables