Jeffrey Song

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EDUCATION

University of Massachusetts Amherst   Amherst, MA
Bachelor of Science in Computer Engineering   *May 2024*
- Relevant Coursework: Network Security and Privacy, Computer Networking, Systems Programming, Hardware Organization and Digital Design, Intro to Security Engineering, Embedded Systems, Intro to Computation, Advanced Programming, Intro to Data Analysis in R, Intro to Algorithms, Artificial Intelligence

SKILLS

Technical Skills: Python, C, R, HTML, Java, MERN Stack (MongoDB, Express, React, Node.js)

PROJECT EXPERIENCE

Full-Stack MERN CRUD Application
Notes App   September 2024
- Created a full-stack web application using MongoDB, Express, React, and Node.js to manage notes with complete Create, Read, Update, and Delete functionality.
- Implemented RESTful APIs and Axios for efficient data handling and real-time front-end/back-end updates.
- Designed a responsive UI and deployed a secure server-side environment with data validation and seamless operation

Design Project
HapticVision   September 2023 - May 2024
- Invented an innovative haptic navigation system for the visually impaired using two Raspberry Pis, five LRAs, and a LiDAR, enhancing spatial awareness through tactile feedback
- Programmed Raspberry Pis to communicate via Bluetooth, with one processing LiDAR data and the other directing signals to corresponding LRAs based on specific angles, ensuring accurate and intuitive navigation

Security Engineering
AWS Encryption and Decryption   December 2023
- Developed and implemented a secure encryption and decryption program in python using AWS KMS and AES-GCM, ensuring confidentiality and integrity of sensitive data stored in AWS S3
- Autotomated the encryption of data files and seamless upload to AWS S3, and integrated decryption functionality for secure data retrieval and processing

Artificial Intelligence
Pacman Game   March 2022
- Used Python to design Pacman agents that uses algorithms to locate pellets as well as vulnerable ghosts to eat and win the game
- Applied the use of Bayes Nets to keep track of factors that would be used to determine the movement of Pacman
- Implemented Q-Learning. Pacman plays multiple training games to get different values based on the position and action it would take. Next, Pacman goes into the testing phase to test the use of values with a 90% win rate

WORK EXPERIENCE

Kyuramen   Brookline, MA
Server   May 2024 - Present
- Establish clear and efficient communication channels with both managerial personnel and colleagues
- Streamline and optimize the restaurant's operational processes to enhance efficiency and sales

EXTRACURRICULARS

Lambda Phi Epsilon International Fraternity Inc.   Amherst, MA
President   September 2023 - February 2024
- Led a team of over 20 officers and effectively managed day-to-day operations, fostering unity and achieving collective goals within a dynamic organization
- Hosted cultural presentations and professional development workshops with over 50 participants