Devon Kear-Leng

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EDUCATION

Brown University, *B.S. Computer Engineering*, 4.00/4.0 GPA Providence, RI | **Expected Graduation May 2026**

Relevant Courses**:** Computer Systems, Software Engineering, Computer Systems Security, Data Structures and Algorithms, Object Oriented Programming, Circuits and Signals, Digital Electronics System Design, Control Systems Engineering

WORK EXPERIENCE

Brown School of Engineering, *Research Assistant* Providence, RI | September 2024 – Present

- Spearheading the development of a humanoid robot based on the InMoov platform, with a focus on adaptive facial expressions and robot-to-robot interactions, aimed at increasing interaction precision by 20%
- Engineering a custom robot control library in C, enabling user interaction through computer interfaces, reducing latency in robot responses by 15%
- Conducting and automating 200+ unit tests to validate the robot's critical components, improving system reliability by 25% and identifying 15% more bugs prior to deployment

Brown Department of Computer Science, *Research Assistant* Providence, RI | October 2023 – August 2024

- Developed a Clinical Decision Support System (CDSS), an interactive virtual assistant that offers context-sensitive, interpretable information and recommendations to enhance patient care for Rhode Island Hospital
- Created Python scripts that leverage Large Language Models (LLMs), utilizing the Llama LLM to de-identify medical notes of protected health information to comply with HIPAA standards
- Trained LLMs using various frameworks and libraries such as PyTorch, DSPy, and LlamaIndex
- Analyzed the accuracy of LLM de-identification using dataset of 500+ patient records to evaluate performance

RI Department of Administration, *Data Engineer Intern* Providence, RI | September 2023 – December 2023

- Collaborated with senior data engineers to develop and deploy data pipelines, resulting in a 20% reduction in ETL processing time
- Assisted in implementing security measures and access controls, ensuring compliance with GDPR and reducing data breach risk by 15%
- Contributed to the design and optimization of database schemas, enhancing query performance by 25%
- Provided data management support to over 10+ departments in the State of Rhode Island

TECHNICAL PROJECTS

24Cast Spring 2024

- Collaborated with 12 teammates in building a web application that attempts to predict the 2024 USA election
- Led as both a frontend and backend developer, leveraging the AWS Lambda function to obtain data from the model, while also developing an interactive frontend using TypeScript, HTML, CSS, and React

Dropbox Spring 2024

- Developed with a partner a file sharing system, allowing for basic sharing and editing while keeping data secure
- Implemented said functions in Python while leveraging cybersecurity techniques such as asymmetric and symmetric key encryption, HMACs, and hashing

MoodMaps Spring 2024

- Collaborated with 3 teammates to build a web application which recommends locations based on user listening history
- Led as the backend developer on the team, creating an algorithm to determine user "mood" using **TypeScript**, **Java**, and the Spotify API, using algorithmic results to recommend locations given by the GeoAPIfy API

LEADERSHIP EXPERIENCE

Brown Space Engineering, *Lead Flight Software Engineer* Providence, RI | August 2024 – Present

- Leading a group of programmers in developing a real-time operating system for a 3U Cube Satellite for launch in 2026 (called PVDx OS) using the ATMEL SAMD51 microchip and FreeRTOS
- Developing sensor drivers for multiple sensors using I2C and SPI serial communication protocols

Full Stack at Brown, *Lead Frontend Developer* Providence, RI | February 2024 – May 2024

- Spearheaded a team of 3 to assist in development of a website for Brown University's Conversational AI Lab
- Led the construction of a chat board using Firebase and TypeScript, reducing coordination time by 20%

SKILLS & INTERESTS

Programming Languages: Python, Java, C, SQL, TypeScript, HTML, CSS, MATLAB, Verilog

Technical Skills: Linux, Git, React, Node.js, Docker, AWS, Figma, MySQL, LTSpice, Fusion360, Excel, Simulink, FPGA, Quartus