

# David Gaspar-Herrera

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## Education

University of Houston, Houston, TX, United States

**Bachelor of Science, Computer Science**

**Expected May 2025**

## Work Experience

**Software Engineering Intern**, Hewlett Packard Enterprise

**June 2024 - Present**

- **Developed a Full Stack Web Application:** Created a server management tool designed to monitor and protect lab infrastructure, using Flask for the backend and React for the frontend.
- **Implemented Modular Architecture:** Utilized Docker containers to ensure the scalability and maintainability of the application, with separate modules for monitoring, shutdown, and data management services.
- **Event-Driven Automation:** Implemented logic to trigger automatic shutdowns of lab operations when certain thresholds are reached, ensuring protection against environmental hazards.
- **Collaborative Development:** Actively updated project progress on GitHub, and presented updates to end users, ensuring clear communication and continuous feedback.
- **Technical Documentation:** Contributed to comprehensive system documentation in Confluence, detailing the architecture, implementation, and usage of the application for future reference and onboarding.

**Software Engineering QA Intern**, Hewlett Packard Enterprise

**May 2023 – Dec 2023**

- **Automated Testing:** Spearheaded the creation of automated End-to-End Tests using Playwright and Python, significantly enhancing the reliability and functionality of the server management platform.
- **Problem Resolution and CI/CD:** Managed and resolved recurring production issues by seamlessly integrating changes through CI/CD pipelines, utilizing Jira for task management.
- **Machine Learning Integration:** Developed Python-based automated log analysis and classification systems, applying machine learning techniques to identify log events in failing test cases, thereby improving troubleshooting efficiency.

**Web Developer**, Institute of Electrical and Electronics Engineers – University of Houston

**Aug 2021 – May 2022**

- **Website Management:** Maintained and enhanced the organization's website, ensuring dynamic and engaging communication of club activities.

## Project experience

**Natural Language Opinion Search Engine**

**Aug 2024 - Present**

- Developed an advanced search engine to retrieve relevant product reviews from a large Amazon dataset based on aspect-opinion queries
- Implemented multiple NLP techniques including Boolean retrieval, sentiment analysis, and machine learning classifiers (SVM, Naive Bayes) to improve search relevance

**Pixl-Sketch**

**July 2022 - Sep 2022**

- Collaborative art platform enabling artists to create and collaborate on art projects.
- Utilized tools including React, Node.js, Socket.io, and MongoDB.

## Skills

- **Programming Languages:** C++, Python, MATLAB, Javascript, HTML, CSS, SQL, Kotlin, C, Java
- **Tools/frameworks:** MATLAB, Github, Git, Excel, Word, Humio, Playwright, Docker, React, Flask, MongoDB, Android Studio, Jira, CICD, Confluence, Nginx, Unicorn
- **Languages:** Bilingual in English and Spanish.