Jacqueline Sanchez

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EDUCATION   December 2025
Bachelor of Science in Computer Science, Minor in Mathematics
University of Houston, Houston, Texas

LANGUAGES: English, Spanish: Fluent (writing, reading, and speaking)

WORK EXPERIENCE
Undergraduate Machine Learning Researcher Intern   **August 2024 - Present**
Purdue University National Data Mine and The USDA Forest Service (West Lafayette, IN)

- Develop an interactive geospatial analysis pipeline, integrating data acquisition, preprocessing, and analysis using tools like Google Earth Engine and Folium.
- Optimize scripts for feature selection and model building to enhance prediction accuracy and efficiency.
- Perform accuracy assessments to ensure reliable, actionable insights.

Computer Architecture & Organization Tutor   **February 2024 - Present**
CougarCS at The University of Houston

- Tutor students on core concepts of Computer Architecture, including Flynn's Taxonomy, memory hierarchy, and concurrency.
- Customize lessons to improve understanding with practical examples and performance metrics

Technical Director   **November 2024 - Present**
Coog Challengers at The University of Houston IEEE NSM

- Lead workshops on Data Science, Data Structures, and Algorithms, while mentoring members on technical challenges and career growth.
- Collaborate with leadership to design initiatives that align with team goals and foster development.

ACADEMIC PROJECTS
University of Houston | Data Science and Statistical Learning   **Spring 2024**

- Analyzed COVID-19 vaccine hesitancy trends across ethnicities using K-Means and Hierarchical Clustering.
- Validated results with Elbow Method, Gap Statistics, and Silhouette Coefficient.

University of Houston | Software Design Course Projects   **Spring 2025**

- Developed engaging projects such as a simulation of the Game of Life and an interactive API-based ISS tracker.
- Focused on writing clean, maintainable code by applying Test-Driven Development (TDD) and abstraction principles, ensuring long-term scalability and ease of future modifications.

RELEVANT COURSEWORK
Data Structures & Programming, Computer Architecture & Organization, Data Science I & II, Statistical Learning, Software Design

HONORS AND AWARDS
Most Noteworthy Course Impact Tutor Scholarship   **Spring 2024**

- Awarded for outstanding tutoring in Computer Architecture & Organization, significantly improving students' understanding of the subject as a sole tutor.

ACTIVITIES   **Spring 2022 - Present**

- Participated in workshops to develop skills in CI/CD with GitHub Actions, building automated Discord chatbots, and creating a simple keyboard, enhancing both software and hardware expertise.

SKILLS / TOOLS
Languages: C++, Python, MATLAB, Julia | **HPC**: SLURM, Job Scripting | **Testing Tools**: Pytest, Unittest | **Integration Tools**: Jenkins