

Luisangel Esparza

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EDUCATION

University of Houston Bachelor of Science in Computer Science, Mathematics Minor

Expected May 2026
Houston, TX

- Coursework: Software Design, Database Systems
- NSM Dean's List: Spring 2025

EXPERIENCE

Information Technology Intern Harris County Precinct 2

June 2024 – August 2024
Houston, TX

- Developed and implemented a real-time network monitoring tracker, resulting in a 30% reduction in network downtime.
- Deployed a real time vehicle tracking system, enabling location and usage analytics for resource allocation.
- Resolved 50+ hardware issues and trained over 30 staff across 13 sites, improving overall operational efficiency.

Coding Instructor Coder Kids

January 2025 – May 2025
Houston, TX

- Managed 34 K-5 students, developing an engaging and structured learning environment to grow confidence.
- Utilized Scratch and Code.org to teach programming fundamentals through interactive, project-based learning.
- Encouraged student development and parent engagement through consistent weekly progress reporting.

PROJECTS

Predictive Weather Risk Analytics | Python, Redis, Neon, Git, Dash

October 2025 – November 2025

- Designed a platform that ingests, processes, and visualizes live precipitation data, enabling rapid risk assessment across multiple locations with sub-second latency.
- Developed a modular Python microservice architecture leveraging Redis for high-throughput event streaming, supporting scalable data pipelines and seamless integration with downstream consumers.
- Implemented a robust data ingestion and risk scoring algorithm, resulting in 99% uptime for automated weather detection and reduction in manual weather checks.

DevDoc AI | Python, GPT4.1 nano, Git

August 2025 – October 2025

- Built an AI-powered assistant that answers programming questions using Retrieval-Augmented Generation.
- Reduced hallucinated responses by grounding outputs in official technical documentation for Python.
- Engineered a prompt injection pipeline with LangChain to retrieve the top-k contextually relevant documentation.
- Scraped and parsed documentation using requests and BeautifulSoup enabling vector indexing.

Master Mind | C#, ASP.NET, NUnit, React.js, Git

August 2024 – December 2024

- Reduced bug detection time by implementing 25 unit tests via Test-Driven Development (TDD) and agile methodologies.
- Created a RESTful API for game logic, enabling seamless integration of the game into diverse front-end apps.
- Established a CI/CD pipeline via Jenkins, integrating automated unit testing and deployment steps to ensure rapid, reliable, and consistent delivery of the game logic API
- Designed an interface using React.js, integrating hooks and state management for a fluid experience.

LEADERSHIP

Corporate Relations Officer CougarCS

May 2025 – January 2026
University of Houston

- Drove a 10.82% increase in members between August and November 2025 by securing 16+ partnerships with major companies.
- Facilitated event logistics through weekly meetings with executives, allowing for smooth operation
- Honed professional communication skills by successfully securing partnerships and sponsorships with corporations.

Algorithms Workshop Director CougarCS

January 2025 – May 2025
University of Houston

- Directed and delivered tailored workshops for COSC 3320, providing 150+ students with critical study resources.
- Empowered a team of 3+ tutors, overseeing content creation and workshop facilitation, ensuring high-quality support.
- Developed confidence in public and technical communication by articulating complex Computer Science topics.

TECHNICAL SKILLS

Languages: Python, C#, C/C++, SQL, JavaScript, TypeScript, HTML, CSS

Frameworks: React.js, Next.js, Flask, ASP.NET, NUnit, Express.js, Tailwind CSS

Developer Tools: VS Code, Git/GitHub, Node.js, MySQL, Docker, Postman, WSL, AWS, Azure