Rene Alzina

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EDUCATION

University of Notre Dame | Notre Dame, IN — May 2027
Bachelor of Science in Engineering — *GPA: 4.0*
Major: Computer Science | Minor: Engineering Corporate Practice (Business Management)

TECHNICAL AND LANGUAGE SKILLS

Technical: Python, C/C++, JavaScript, HTML, CSS, bash
Frameworks: React, Vercel, Pandas, Tableau, Git/Github
Coursework: Data Structures, Systems Programming, Operating Systems, Programming Paradigms, Theory of Computing
Spoken Languages: Fluent in Spanish, Intermediate French

EXPERIENCE

84.51° |Data Club of Notre Dame — January 2025 – April 2025
Team Leader

- Led a team of **8** to develop **4 Tableau dashboards**, analyzing Kroger's sales, promotions, and customer segments.
- Processed and analyzed over **20 million** lines of raw data using **Pandas** for data cleaning and preparation.
- Delivered a polished final project presentation to **20 stakeholders** in the Chicago office by delegating tasks and leading **3** weekly meetings with both the team and the company contacts to ensure alignment and smooth execution.

Chawla Lab |Lucy Family Institute for Data and Society, Notre Dame, IN — January 2025 – April 2025
Research Intern

- Collaborated with a team of 6 on a **Twilio** app to communicate with Mexican parents of child cancer patients.
- Contributed to migrating our app-to-LLM communication from WebSockets to REST API architecture.
- **Tested** and **configured** Twilio's speech models to ensure accurate pronunciation and interpretation of Spanish.

Fabricaciones y Montajes Metálicos S.A. de C.V. | Mexicali, Baja California, Mexico — July 2024 – August 2024
Assistant Manager Intern

- Developed an application in **C** that stored machine data (production capabilities, production speeds, and shift availability) to **calculate production forecasts** based on the required parts and quantities for each project.
- Replaced a slow and error-prone manual Microsoft Excel process, improving calculation speed and reliability

PROJECTS

Web Development |Notre Dame, IN — April 2025 – May 2025
Developer

- Implemented a dynamic **React** app to display and read aloud top news by fetching external API data, enhancing accessibility and user experience; deployed on **Vercel** with a **serverless backend** for secure API handling.
- Constructed a **personal portfolio** website with **HTML, CSS, and JS** to showcase technical projects and skills.
- Built a **study helper app** using **HTML, CSS, and JS**, implementing flashcards, timers, and file-saving functionality.

Systems Programming Course | Notre Dame, IN — January 2025 – May 2025
Projects

- Recreated core **UNIX** functionality in **C** and **Python**, implementing process management, file I/O, and concurrency to deepen understanding of low-level system operations (open, read, write, fork, stat, exec).
- Engineered a low-level multi-client chat server in **Python** using **TCP sockets** and **select** for real-time messaging.

LEADERSHIP

McInerney Fellowship Program| Notre Dame, IN — August 2024 – Present
Peer Mentor

- Mentored a first-year Computer Science student with a similar background by one-on-one meetings to **guide** her on coursework, resume-building projects, and campus involvement; recognized as **top mentor** by program leadership.

Society of Latino Engineers and Scientists| Notre Dame, IN — August 2024 – Present
Incoming Professional Development Chair – Expected August 2025

Data Club of Notre Dame| Notre Dame, IN — August 2023 – Present
Incoming President – Expected August 2025