DARIEL GUTIERREZ

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Education

San Diego State University   **Expected Graduation: June 2027**
Bachelor of Science in Computer Science   *Major GPA: 3.8*
Organizations: Colorstack, Codepath, Sigma Chi Fraternity, SHPE, ACM

Experience

Incoming AI/Networking Research Intern   **Columbia, MO**
University of Missouri — NSF REU   *May 2025- June 2025*
- Offer accepted for Summer 2025 Software Research Internship

Undergraduate Software Researcher   **San Diego, CA**
San Diego State University — Prof Umut Can Cabuk   *Feb 2025 – Present*
- Leading research initiatives on programmable drones and their applications in real world disaster scenarios.
- Working with HITL concepts for drone flight simulation and testing.
- Developing and testing swarm drone coordination using WiFi chips for synchronized autonomous movement, **optimizing real-time communication** and formation control
- Managing **$5000 budget** allocated for purchasing programmable drones, developing support documentation on leveraging drones for various applications

Open Source Backend Intern   **Remote**
Belto World   *Aug 2024 – Dec 2024*
- Engineered and optimized Express.js backend services, seamlessly integrating with a React frontend to enhance application responsiveness.
- Developed and implemented a MongoDB schema to efficiently store chat history, structuring data in JSON format to improve query performance, handling **1K+ messages**.
- **Led weekly stand-up meetings**, collaborating with a team of 4 engineers, resulting in a 100% improvement in chatbot response accuracy when interacting with a chats memory.

Projects

Cash Compass — Python, EJS, MongoDB, Express.js, Jupyter Notebook, Chart.js
- Developed an AI-powered financial expense-tracking application that enables users to track spending habits and gain actionable insights.
- Integrated CSV file input functionality, enabling advisors to upload and analyze client expenses for AI powered identification and decision-making.
- Leveraged Python and **Jupyter Notebook** for exploratory data analysis to derive meaningful **AI powered** financial insights.

Belto AI Chatbot — Node.js, Express.js, React, MongoDB, Open AI API
- **Developed an AI-powered wrapper chatbot** application using a full-stack approach. Implemented an Express.js backend with Node.js, integrating with a React front-end to provide a seamless chat experience.
- Processed user inputted information in the back-end of the app to return an OpenAI response in tokens.
- Designed error-handling mechanisms to optimize chatbot performance, reducing downtime to less than 0.1%.

Leadership / Extracurricular

Sigma Chi   **Spring 2024**
Derby Days Officer   *San Diego State University*
- Orchestrated the annual week long Sigma Chi Derby Days philanthropy event in collaboration with the Huntsman Cancer Foundation raising **$150,000+ in one week.**
- **Managed executive board of 5 members** and ran weekly meetings to oversee progress in essential parts of Derby Days.
- Led chapter of **140+** members to work towards the world problem of curing cancer in help with Huntsman Cancer Foundation.

Technical Skills

Languages: Python, Java, C/C++, HTML/CSS, JavaScript, SQL
Tools/Frameworks: Linux, GitHub, Git, VS Code, React, Node.js, Axios, Express, PyCharm
Coursework: Discrete Math, Data Structures and Algorithms, Advanced Programming Languages, Computer Organization