JOSE S. GALLO

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EDUCATION

CARNEGIE MELLON UNIVERSITY   Pittsburgh, PA
Pursuing a Bachelor of Science in Artificial Intelligence – School of Computer Science   Aug 2023 - Expected May 2027
- Coursework: Probability & Statistics, Data Structures & Algorithms, Computer Systems, Computer Vision, Theoretical CS
- Dean's List with High Honors (Fall 2024)

EXPERIENCE

CATERPILLAR (caterpillar.com | Equipment manufacturer)   In-person - Chicago, IL
Data Analytics & Software Intern   Incoming

HORIZON ADVISORY (horizonadvisory.org | Strategic management services)   Hybrid - Pittsburgh, PA
Freelance Software Developer - Part Time   Aug 2024 - Present
- Developed a chatbot with Mistral AI and AWS EC2 instances designed to retrieve PDFs and spreadsheets based on natural language queries, focusing on algorithmic efficiency while minimizing computational overhead
- Engineered a hybrid search system for the RAG (Retrieval Augmented Generation), combining KMP (Knuth-Morris-Pratt) search with vector-based similarity search using AWS Pinecone ensuring both precise and context-aware results

PRECISION DRILLING (precisiondrilling.com | Canadian drilling contractor)   Hybrid - Houston, TX
Machine Learning Developer Intern   May 2024 - Aug 2024
- Built chatbot using Microsoft Azure AI (GPT-4o) to provide real-time, natural language access to oil rig data, significantly improving operational efficiency
- Implemented a LangChain RAG in Python to retrieve documents from Snowflake SQL database based on natural language, using techniques like prompt contextualization, logical routing, and self-query retrieving to achieve optimum results
- Presented the solution to the CTO and engineering team, demonstrating its potential to save $1 million annually through improved data accessibility and reduced downtime

HUMAN-COMPUTER INTERACTION INSTITUTE (Research lab at CMU)   Pittsburgh, PA
Research Assistant   Feb 2024 - May 2024
- Worked with PhD students in partnership with Yiya AirScience's virtual classroom technology, delivering education to communities across Uganda via radio
- Refactored student data using Python and Pandas, performing ETL (Extract, Transform, Load) processes to import data into DataShop (CMU's data repository for researchers)

COUNTRYWATCH, INC. (countrywatch.com | Geopolitical intelligence services)   Houston, TX
Data Analyst and Software Developer Intern   July 2022
- Analyzed large-scale datasets on international affairs and commodity prices, creating world maps to visualize global data
- Developed a Java program with Apache Commons to automate this process, boosting productivity for the chief analyst

PROJECTS

LAUNCHPAD (launchpadhouston.com)   May 2024 - Present
- Built web platform in team of three using ReactJS connecting high-schoolers to school alumni, bridging gaps in opportunities
- Developed user onboarding page, storing user data in Google Firebase, and deployed Typesense search engine on Azure
- Currently doing beta testing with my old high school (The Awty International School in Houston, TX)

HOUSTON AIR POLLUTION FORECAST (github.com/gallo-json/air-pollution-forecast)   Mar 2021 - Oct 2022
- Created website with Streamlit to help at-risk Houstonians from low-income neighborhoods avoid polluted areas
- Processed air pollution data from the TCEQ (Texas Commission on Environmental Quality) with Pandas and built TensorFlow deep learning model using RNNs (Recurrent Neural Networks) for time-series prediction
- Made video documenting process, received 1000 views and 300 likes. Peak usage up to 1000 daily users across Houston