

# JOSE S. GALLO

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## EDUCATION

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### CARNEGIE MELLON UNIVERSITY

Pittsburgh, PA

Pursuing a Bachelor of Science in Artificial Intelligence and Robotics

Aug 2023 - Expected May 2027

Relevant Coursework: Data structures, Computer systems, Linear Algebra, Vector calculus, Computer Vision

### THE AWTY INTERNATIONAL SCHOOL

Houston, TX

High School and IB Diploma

Aug 2016 - May 2023

## EXPERIENCE

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### PRECISION DRILLING ([precisiondrilling.com](https://precisiondrilling.com) | Canadian drilling contractor)

Hybrid - Houston, TX

Machine Learning Developer Intern

May 2024 - Aug 2024

- Built chatbot using Microsoft Azure AI services to enhance oil well data accessibility for drilling optimization engineers
- Implemented a LangChain RAG (Retrieval Augmented Generation) pipeline in Python using prompt engineering to retrieve relevant documents from Snowflake database based on user inputs
- Presented the solution to the CTO, VP of Drilling Optimization, and rest of engineering team, resulting in an estimated annual savings of \$1 million and significant productivity gains

### 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 remote and underserved 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](https://countrywatch.com) | Geopolitical intelligence services)

Houston, TX

Data Analyst Intern

July 2022

- Analyzed large-scale datasets on international affairs and commodity prices, creating world maps to visualize global data
- Developed a JavaFX program to automate this process, significantly boosting productivity for the Chief Economic Analyst

### THE BRIARWOOD SCHOOL LEGO ROBOTICS PROGRAM

Houston, TX

Lead Mentor

Jun 2021 & Jun 2022

- Designed curriculum for a week-long summer camp for middle schoolers with learning differences (ADHD, autism, dyslexia)
- Recruited experienced volunteers and taught basics of robotics and programming with LEGO Mindstorm EV3 robot kits

## CODING PROJECTS

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### GOOGLE'S PAGERANK ALGORITHM (Final project for 21-241 Matrices and Linear Transformations class) Nov 2023

- Developed a mockup of Google's PageRank algorithm to rank websites within a simulated internet environment
- Utilized Julia to manage large datasets, ensuring accurate representation of complex graphs, and incorporated a dampening factor to handle dead-end nodes, enhancing the algorithm's robustness

### HOUSTON AIR POLLUTION FORECAST ([github.com/gallo-json/air-pollution-forecast](https://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

### SELF-DRIVING ROBOT ([github.com/gallo-json/self-driving-robot](https://github.com/gallo-json/self-driving-robot))

Jan 2020 - July 2020

- Programmed a miniature self-driving car using the NVIDIA Jetson Nano Developer Kit to navigate a model of city roads
- Leveraged YOLO (You Only Look Once) deep learning algorithm in PyTorch and OpenCV to detect traffic lights, stop signs
- Presented project to NVIDIA Deep Learning Institute and received Jetson Nano AI Specialist certificate