

ALEJANDRO APARCEDO

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EDUCATION

University of Central Florida

Computer Science, M.S., GPA: 4.0 / 4.0

Aug 2025 - May 2027

Computer Science, B.S., GPA: 3.5 / 4.0

May 2020 - December 2024

Awards: NSF GRFP Fellow (\$159K), Various grants (\$5K+), AI Safety Fellowship

EXPERIENCE

Supercomputing Intern

May 2025 - August 2025

Los Alamos National Laboratory

- Built a 10 node supercomputer using **Ansible** for configuration management and **iPXE** for netbooting.
- Benchmark GPU Direct Storage on NVIDIA GPUs for AI/ML workloads over **NVMeOF** on **InfiniBand**.
- Benchmark network bandwidth and latency of **InfiniBand** and **Ethernet** using **iPerf3** and **Perftest**.

AI and Data Science Research Intern

November 2023 - November 2024

Florida Solar Energy Center

- Developed **PyTorch** framework for hurricane power outage forecasting using nighttime satellite imagery.
- Accelerated processing of geospatial data by **98%** through algorithm and **multi-GPU** optimization.
- Created **exploratory data analysis** framework for **500GB** of satellite imagery using **Pandas** and **Numpy**.

AI Research Intern

May - November 2023

Center for Research in Computer Vision

- Developed **PyTorch** framework for evaluating visual attacks on **Large Multimodal Models (LMMs)**.
- Analyzed visual robustness of LMMs models for **image classification** and **caption retrieval** tasks.
- Coauthored paper and presented findings at the **IEEE/CVF CVPR** conference in Seattle, WA.

PROJECTS

AI Agent Market Analytics | Hacklytics 2025 @ Georgia Tech

February 2025

- Combined **NextJS**, **ReactJS**, **NodeJS**, and **TypeScript** to design a full-stack web application
- Created 3 **REST APIs** with **FastAPI** which handle text and image input, hosted on **AWS EC2**.
- Deployed a dynamic web application on **AWS EC2**, configured with **Caddy** for automatic HTTPS.

Capstone Project: Voice Command System for Military Simulations

January 2024 - December 2024

Air Force Agency for Modeling and Simulation

- Created a **NLP** interface **C++** and **Python** to interact with entities within a simulated environment.
- Integrated open-source **Whisper.cpp** and **LLaMA.cpp** for speech-to-text and text comprehension
- Utilized **CUDA** and **GGUF** bit quantization to ensure maximum efficiency with consumer GPU hardware.

Interactive Alignment Evaluation for LLMs | AI ATL 2025 @ Georgia Tech

October 2024

- Created benchmarking methodology for harmful **Chain-of-Thought** detection in **LLMs**.
- Built web-based evaluation platform to compare human vs AI unfaithful Chain-of-Thought detection.
- Deployed platform using **Docker** on **DigitalOcean** with **Cloudflare** integration for production environment.

SKILLS

Programming Languages: Python, C/C++, Bash, JavaScript, HTML, CSS

Technologies: PyTorch, HuggingFace, NumPy, Pandas, React, Git, Streamlit, LaTeX, OpenCV, RAG

Backend & Cloud: FastAPI, AWS, Cloudflare

Infrastructure: Docker, Linux, Nginx, CI / CD, Slurm, Parallel computation, Distributed Systems

Languages: English, Spanish