

# Gabriel Cha

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## Education

### Columbia University

New York, NY

M.S. in Data Science

09/2025 - 12/2026

- Applied Machine Learning, Deep Learning & Neural Networks, Probability & Statistical Inference, Insurance & Banking

### University of California, San Diego

San Diego, CA

B.S. in Data Science, **3.75 GPA**

09/2021 - 05/2025

- Data Structure & Algorithms, Statistics & Probability, Data Management, Probabilistic Modeling & Machine Learning

## Experience

### Root Access

New York, NY

AI/ML Engineering Intern

09/2025 - 12/2025

- Engineered autonomous multi-agent framework with tool selection and self-correcting retry loops, enabling agentic workflows, used by Fortune 500 firmware teams reducing compilation/deployment cycles from 2 hours to 10 minutes
- Built production system using LangGraph and GPT-4 automating 24 firmware operations through conversational interface, eliminating manual workflows for 25+ developers and accelerating product delivery timelines

### Southern California Edison

Rosemead, CA

Data Science Intern

06/2024 - 09/2024

- Engineered scalable system monitoring 70+ solar plants for automated outlier detection, transforming 3-day manual processes into 10-minute automated workflows preventing \$5K+ monthly losses from undetected system errors
- Developed ETL pipeline for third-party data requests, processing large datasets (1TB+) from 100+ files and eliminating 4-day manual reporting cycles to accelerate data delivery for clients in the energy trading industry
- Collaborated with cross-functional energy analytics team to implement detection algorithms, improving system reliability and enabling faster grid optimization decisions

### DSTL Lab

La Jolla, CA

AI/ML Research Assistant

10/2024 - 05/2025

- Published paper accepted to SIGCSE 2026 (advised by Sam Lau) on LLM applications in education, demonstrating 53% improvement in automated question generation through context engineering and prompt engineering validation
- Built interactive AI chat agent in JupyterLab to automate educational content generation workflows for instructors

### UC San Diego

La Jolla, CA

Teaching Assistant

04/2022 - 05/2025

- Led instruction across 9 academic quarters for data manipulation and analysis using libraries such as pandas, numpy, and scikit-learn, achieving 100% student satisfaction scores in teaching evaluations for DSC 10, DSC 80, and DSC 106

## Projects

### Cloi - Debugging AI Agent [\[390+ Github Stars\]](#)

05/2025

- Developed AI debugging agent that analyzes error messages, retrieves contextually relevant code files via RAG, and applies LLM generated chain-of-thought fixes to codebase. *[Invited to Y Combinator Batch S25 for Interview]*

### Classifying Emotions with CNNs

09/2023

- Led \$6,500 UCSD-funded research project using ResNet-50 architecture for speech emotion classification; implemented augmentation pipeline and trained CNN on PyTorch, achieving 86% accuracy on test datasets

## Skills

### Programming Languages

Python, SQL, Java, Git, Docker, Typescript, Jupyter Notebook

### Data Analytics

Pandas, Spark, Numpy, Tableau, Data Cleaning, A/B Testing, Statistical Analysis

### Machine Learning

TensorFlow, PyTorch, Scikit-learn, Hugging Face, Natural Language Processing (NLP)

### AI Applications

LangChain, Context Engineering, Embeddings, Vector stores, Chunking, and Prompting

### Soft Skills

Curiosity-driven with strong attention to detail, Collaborative cross-functional contributor