

# GIORDANO ROGERS

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## Objective

Undergraduate researcher focused on large language model interpretability.

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## Education

**Northeastern University**, Boston MA — *B.S. Data Science & Mathematics* (exp. Dec 2026)

GPA 3.96 / 4.00 • Coursework: Artificial Intelligence, Machine Learning, Natural Language Processing, Linear Algebra, Calculus III, Probability & Statistics

- Lead weekly reading group for Northeastern's AI club covering mechanistic interpretability topics.

**Bunker Hill Community College**, Boston MA — *A.S. Computer Science* (Jun 2024)

GPA 4.00 / 4.00 • Highest Honors, Commonwealth Honors • Coursework: Honors Artificial Intelligence, Data Structures, SQL Programming

- Participated in the computer science club building a needs-based student resource platform.
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## Research & Projects

### Bau Lab — Research Assistant (Apr 2025 – Present)

- Investigated attention heads responsible for a filtering operation in LLMs (2 publications in review at ICLR).
- Built PyTorch/Hugging Face/NNSight infrastructure for interpretability experiments including activation patching, linear probing, patch-scoping, and logit lensing on 1B, 8B, 32B, and 70B parameter models.
- Designed synthetic datasets for conducting behavioral analysis of LLaMA-3.3-70B's performance on creative reasoning tasks.

### Center for Inclusive Computing — Research Assistant (Jan – May 2025)

- Wrote LLM-backed scraper that pulled AI-curriculum data across 50 top undergraduate AI programs. Delivered a pipeline and interface for data extraction used in NSF proposal (publication in preparation).
  - Tested GPT-4o, GPT-o1, and DeepSeek-R1, for performance on unstructured data extraction.
  - Conducted data analysis and created corresponding visualizations of the distribution of AI staff at 50 top universities.
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# Industry Experience

## Liberty Mutual Investments — Data Engineering Intern (May – Aug 2024)

- Shipped cloud-native Python ETL-pipeline that ingested daily Excel reports from S3 to Snowflake, cutting analyst effort and feeding PE dashboards.
- Led my team in an intern hackathon developing a recommender system for the internal social media platform.
- Collaborated on Agile squad; wrote integration tests and CI workflows that reduced deployment defects.

## Hack.Diversity Fellow (Jan – Aug 2024)

- Completed eight-month curriculum on software engineering.
  - Selected into the program as part of the top 19 % of 800+ applicants.
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# Research Interests

Geometry of concept representations in neural networks • Chain-of-thought reasoning in LLMs • Reinforcement learning for explainable LLMs

# Technical Projects

**Transformer Implementation:** Built complete Transformer architecture from scratch in PyTorch for NLP course, including multi-head attention, positional encoding, and beam search decoding.

**Agentic Research Summarizer:** Led a multi-engineer team to develop an LLM-driven pipeline to automatically source and summarize emerging research, and personalize feeds based on user feedback.

# Skills

**Programming:** Python (NumPy, Pandas), PyTorch, Hugging Face, NN-Sight, SQL, Git

**ML Ops / Data:** Weights & Biases, Snowflake, AWS (Lambda, S3), WandB

**Tools:** VS Code, Jupyter, GitHub

**Certifications:** Kaggle (ML, Feature Engineering), DeepLearning.ai (Attention in Transformers, How Transformer LLMs Work), Snowflake (Data Engineering)

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# Selected Links

Portfolio & Blog: <https://giordanorogers.github.io/>

GitHub: <https://github.com/giordanorogers>