

Aditya Oke

Pittsburgh, PA | aoke@cs.cmu.edu | linkedin.com/in/aditya-oke-99b74717a | github.com/oke-aditya

RESEARCH STATEMENT

My research focuses on **LLM safety, robustness, and interpretability** for **agentic and decision-making systems**. I develop **evaluation and training methods** that improve **factual reliability, reasoning consistency, and behavior in real world**.

EDUCATION

Carnegie Mellon University

Master of Science in Computational Data Science; CGPA: 3.86/4.0

Pittsburgh, PA

Aug 2025 – May 2027

- **Coursework:** LLM Methods and Applications, Machine Learning, Cloud Computing, LLM Systems

Vellore Institute of Technology

Bachelor of Technology in Computer Science and Engineering; CGPA: 9.20/10.0

Vellore, India

Aug 2018 – May 2022

- **Focus:** Artificial Intelligence, Image Processing, Operating Systems, Distributed Systems

RESEARCH EXPERIENCE

Amazon Nova Challenge | PyTorch, LLM Agents, AI Safety

Feb 2026 – Present

- Built **red-teaming LLM agents** to detect **vulnerable code generation** in production tasks.
- Creating **safety benchmarks** for **adversarial coding prompts**, evaluating exploitability and model robustness.

Graduate Researcher: Li Lab (Advisor: Prof. Lei Li)

Sep 2025 – Present

Carnegie Mellon University

Pittsburgh, PA

- Investigating **hallucination, attribution, and robustness** of large language models including GPT-4, Gemini, and DeepSeek under distribution shift.
- Developing **automatic and human-aligned evaluation frameworks** for factuality, reasoning consistency, and failure analysis in scientific text generation.

Probing Reasoning in Large Language Models | PyTorch, Hugging Face, LLaMA 3

Nov 2025 – Dec 2025

- Performed **knowledge distillation** of LLMs into smaller models while preserving **chain-of-thought and multi-step reasoning**.
- Analyzed **generalization, calibration, and faithfulness of reasoning traces** across model scales.

Torchvision Contributor | PyTorch, Python

Aug 2020 – Jun 2023

- Contributed to **PyTorch Torchvision**, building **reproducible vision benchmarks and model evaluation utilities**.
- Co-Contributed SwinTransformer3D for large-scale video research used by academic and industry labs.

PUBLICATIONS

- D Andre, Tufts B, Oke, A, et al. **Sem-Detect: Semantic Level Detection of AI Generated Peer-Reviews**. Submitted, International Conference on Machine learning (ICML) 2026
- Oke, A. et al. **A Novel Approach to Encrypt Data Using Deep Neural Networks**. Springer ICADCML, 2022.
- Oke, A. et al. **Real-time Face Mask Detection on Edge IoT Devices**. IET Computer Engineering, 2021.
- **Deep Learning with PyTorch Lightning**. Technical Reviewer, Packt Publishing, 2022.

PROFESSIONAL EXPERIENCE

Software Engineer II

JPMorgan Chase & Co.

Jan 2022– Aug 2025

Bengaluru, India

- Designed and deployed **distributed Spark pipelines** processing multi-terabyte financial datasets for real-time analytics.
- Built **Python services and AWS workflows** to support compliance, reporting, and internal AI-driven tools.
- Migrated legacy systems to **AWS cloud infrastructure**, improving system reliability and reducing operating costs.

TECHNICAL SKILLS

Languages: Python, C++, Java, SQL

Machine Learning: PyTorch, Hugging Face Transformers, LoRA, PEFT, Fine-Tuning, Model Evaluation

Data & Systems: Apache Spark, AWS, Databricks, Docker, Kubernetes, Linux

AWARDS

Corporate Tech Champion Award | *JPMorgan Chase*

Apr 2025

Early Career Recognition Award | *JPMorgan Chase*

Nov 2024

Engineering Excellence Award | *JPMorgan Chase*

Aug 2023

Innovation Hackathon Winner | *JPMorgan Chase*

Mar 2023