

Aditya Kulkarni

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EDUCATION

University of Texas at Dallas

Master of Science, Computer Science. **GPA: 3.74/4**

Dallas, TX

August 2023 – December 2025

Independent Research: Visual tracking of aquatic animals using ML controlled underwater robots

Savitribai Phule Pune University

Bachelor of Engineering, Computer Science. **GPA: 9.12/10**

Pune, India

August 2017 – May 2021

SKILLS

Programming: Python (proficient), C++ (proficient), SQL (proficient)

Machine Learning & AI: Deep Learning, NLP, Computer Vision, LLMs, PyTorch, Transformers

Big Data: Apache Spark, Kafka, HDFS, SparkSQL

DevOps & Cloud: Docker, Kubernetes, Jenkins, AWS (S3, EC2, Lambda), Databricks, MLFlow, ELK Stack, Flask, Linux, Git

Data Analytics: Excel, PowerBI

Databases: MongoDB, MySQL

WORK EXPERIENCE

Boehringer Ingelheim

Data Science Intern

Ridgefield, CT

January 2025 – Present

- Developed and optimized LLM frameworks (**GPT-4o**, **Claude Sonnet 3.5**) for vendor classification and webpage analysis, improving accuracy by **8%** through advanced **prompt engineering(Chain of thought)** and **fine-tuning(PEFT)**.
- Built **Streamlit** applications with multi-processing, reducing processing time by **30%**.
- Designed evaluation pipelines using **Argilla** and **DeepEval**, creating custom dashboards for LLM **performance monitoring**.
- Led MLOps implementation for production deployment on **OpenShift**, integrating CI/CD pipelines and enhancing application reliability.

University of Texas at Dallas

Graduate Research Assistant

Dallas, TX

May 2024 – December 2024

- Engineered a specialized **object detection system** for aquatic animals using **ResNet50** and **YOLO** architectures.
- Analyzed over 25 articles on state-of-the-art underwater robotics and vision tracking systems and presented a detailed review.
- Partnered with senior researchers at HBS Lab to advance **ML vision** capabilities for **underwater robot navigation**.
- Spearheaded research on **fine-tuning CodeLlama** for software engineering tasks, using **PEFT** methods like **LORA** and **quantization** achieving an impressive **84%** accuracy.

PubMatic Inc.

Software Development Engineer in Test-1

Pune, India

April 2021 – June 2023

- Developed **Python** based automation for **functional test cases** using **Pytest**, **Jenkins** and private cloud architecture.
- Implemented parallel test execution using **LXC** to maximize efficiency and reducing execution time by **80%**.

PROJECTS

Realtime Reddit News Analysis

May 2024 – August 2024

- Engineered a real-time news classification and interpretation dashboard using **Apache Kafka**, **Spark Structured Streaming** and **Kibana** dashboard for visualizing real-time results using **ELK stack** with capability of processing **50** articles per minute.
- Developed news **classification** and **sentiment analysis** models using fine-tuned **DistilBERT** and **SparkNLP classifierDL** with bias classification accuracy of 83% and sentiment analysis accuracy of 91%.

InvestAid: An AI-powered Investment Dashboard

October 2023 – March 2024

- Designed an AI-powered **investment advisory** system leveraging **NLP** and **aspect-based sentiment detection** techniques.
- Leveraged **Spacy** models to analyze **sentiment and topics** in over 50,000 social media posts and financial news articles, achieving a classification accuracy of **85%** and identifying 10 key topics relevant to financial markets.
- Integrated historical **data analysis** to generate data-driven stock position **recommendations** for top 3 performing stocks.

CERTIFICATIONS

- IBM Data science Professional [Certificate](#)