

Aadesh Kabra

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EDUCATION

University of Maryland, College Park

Master of Science in Computer Science

Relevant Coursework – Natural Language Processing, AI Planning, Programming Analysis

College Park, USA

Expected Graduation – May-2027

Vishwakarma Institute of Technology, Savitribai Phule Pune University

Bachelor of Technology in Artificial Intelligence and Data Science, CGPA: 9.33/10

Relevant Coursework – Data Science, Deep Learning, Database Systems, Machine Learning, Operating Systems, Cloud Computing, OOP

Pune, India

07/2020 – 05/2024

SKILLS

Programming Languages: Python, C/C++, Java, Javascript

Python Frameworks / Libraries: FastAPI, Flask, Tensorflow, Pytorch, Numpy, Pandas, Spacy, NLTK, Pyspark, OpenCV, Langchain

Database Systems: MySQL, Apache Hadoop, Hive, Impala, PostgreSQL, MongoDB

Other: HTML, CSS, VueJs, NodeJS, Git, Linux (Ubuntu), CUDA, Tableau, Docker, Redhat Openshift

WORK EXPERIENCE

Software Engineer, Infineon Technologies

06/2024 – 06/2025 | Bengaluru, India

- Developed a Retrieval Augmented Generation (RAG) based chatbot ‘Genie’ to solve EDA license related queries for the GLM team to decrease the overall **resolution time by 30%** and deployed it on Red Hat Openshift using Docker.
- Created complete retrieval pipeline using NLTK, Spacy’s custom NER model and Langchain integrated with FastAPI, VueJS and a Data Lake to make the system scalable and efficient, with a query **response time of 20 seconds**.

Automation Intern, Infineon Technologies

07/2023 – 05/2024 | Bengaluru, India

- Queried Hadoop databases using SQL, Impala and Python to extract insights on ideal parameters for EDA jobs, resulting in approximately **20% improvement in Xcelium EDA job efficiency** on the compute farm.
- Helped in redesigning the Hadoop database and DataLake of EDA jobs by identifying bottlenecks through analysis. **Streamlined ETL pipeline** for data analysis and built Tableau dashboards for job run analysis.

PROJECTS

Automated Hiring System using Semantic Similarity & Computer Vision

Python, NLP, Semantic Similarity, Web Scraping, CNN, LSTM, NLTK, spacy, Deep Learning

- Streamlined complete recruitment process, reducing interview time for interviewers by at least **6 hours** each hiring cycle.
- Designed an innovative real time interface using **Sequential CNN model and LSTM** along with OpenCV library and deployed it on Google Cloud. Improved runtime concurrency using **CUDA acceleration**.

Improving Person reidentification with Dual Generator and Dual Discriminator in Conditional GANs

Python, Generative Adversarial Network (GAN), OpenCV, Deep Learning

- Developed a dual generator and dual discriminator based **Conditional GAN system** using Python’s OpenCV library, **reducing error rate** for person-reidentification **by 13%**.
- Enhanced the image quality using combination of low light image optimization technique and attention mechanism.

AI based Portfolio Management Assistant

FastAPI, VueJS, Langchain, Pandas, RAG Chatbot, MongoDB, Google Gemini

- Built an end-to-end web application for users to analyze investment portfolio performance, returns, and get personalized insights.
- Developed a RAG chatbot using **LangChain and Google Gemini** to answer portfolio specific queries, provide contextual financial news, and generate personalized recommendations based on the user’s investment history.

Transformer Model Implementation

Python, Pytorch, Numpy, Pandas, CUDA

- Engineered a **Transformer architecture** by implementing embeddings, positional encodings, multi-head self-attention with query, key value projections, and encoder-decoder module with proper attention masking for sequence to sequence learning.

PUBLICATIONS

- ‘A Semantic Approach for Automated Hiring using Artificial Intelligence & Computer Vision’
Published in IEEE 8th International Conference for Convergence in Technology, 2023.
- ‘Improving Person-Re Identification with Dual-Generator and Dual-Discriminator Architecture in Conditional GANs’
Published in IEEE 1st International Conference on Cognitive, Green and Ubiquitous Computing (IC-CGU), 2024.