Aditya Mishra

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Education

- **SRM Institute of Science and Technology** — KTR, Tamil Nadu
  Final Year, B.Tech, Artificial Intelligence; GPA: 9.1 — *Sept 2020 - June 2024*

Skills

- **Languages**: Python, C, C++, MATLAB, SQL, HTML, CSS, Javascript, React
- **Technologies**: Pandas, NumPy, MySQL, Salesforce, RestAPIs, MongoDB, ChromaDB, Elastic, Git, OpenCV, TensorFlow/Keras, PowerBI, Kafka, PySpark, Plotly, Transformers, RAG, Vector Databases, Grafana
- **Platforms**: Azure Devops, Synapse, Postman, Google Cloud Platform, IBM Cloud, Arduino, Raspberry Pi, Linux, AWS Neptune, Excel, Google Sheets

Work Experience

Data Engineering Intern — July 2023 - Ongoing
Bajaj Finserv Health — *Pune, India*

- Achieved a remarkable reduction in cost per claim from 70Rs to 15Rs through meticulous data analysis and optimisation techniques by employing diverse statistical modeling approaches like outlier identification and transactional risk scoring, leading to monthly savings exceeding 1Cr+.
- Pioneered the adoption of groundbreaking industry-first techniques, such as syndicate analysis, to unveil correlations among disparate individuals and spike analysis methodologies to detect abrupt and anomalous spikes in claims activity.
- Actively contributed to the development of a straight-through processing system for health insurance claims, resulting in a dramatic reduction in processing time from 72 hours to 5 minutes, significantly enhancing operational efficiency and reducing business costs.
- Integrated machine learning and forecasting algorithms into the claims adjudication system, enabling real-time fraud detection and decision-making, resulting in a further reduction of fraudulent activities and ensuring the integrity of insurance claims processes.

Deep Learning Research Intern — Jan 2023 - May 2023
IIT-Patna — *Online*

- Interned at IIT Patna for a Deep Learning project under the guidance of Dr. Chandranath Adak, focusing on a Deep Learning based study on Land Cover Classification.
- Conducted experiments involving standard models and performed a comparative analysis.

Research Intern — Oct 2022 - May 2023
Dept of Science and Technology, Govt. of India PURSE Project — *Chennai, India*

- Developed a low-cost PV Characteristic Plotter which helps to reduce efforts in analyzing defective panels by 80%.
- Innovative implementation of Multi-Camera Person Tracking and Re-Identification System, addressing the requirement for tracking across non-overlapping cameras for public safety. This solution eliminates manual tracking, resulting in a cost reduction of 90%.

Projects

- **RAG based QA System (NLP, AI)**: Built a **Retrieval Augmented Generation** based model which answers questions based on the 2023 US President Biden speech to Congress. Used the **Llama 2** model for the Question Answering system. Created a **vector database** for context retrieval to generate appropriate response given a query. (Mar 2024)

- **Multi-Camera Tracking and Re-Identification (Computer Vision, Deep Learning)**: "**Track**" and "**Re-Identify**" a query person of interest across **non-overlapping** cameras using **YOLO v3/v4** and **Torchreid** library which improves the performance of the system by **40 percent** and is ready to set up in under **30 seconds** (Mar 2023)

- **Asteroid Classification (Data Analysis, Machine Learning)**: Asteroid classification and clustering using techniques like **Decision Tree, Random Forest, SVM, XGBoost and K-Means**. Predicted asteroid hazards, identifying influential features such as Minimum Orbit Intersection and Absolute Magnitude and discerning unique cluster characteristics (Apr 2023)

- **Image Inpainting System (Computer Vision, Deep Learning)**: Developed an AI model proficient in concealing defects or eliminating objects from images delivering performance comparable to GAN-based techniques without necessitating extensive resources using a combination of Fast Marching Method and Navier Stokes Method. **Open-source alternative** to professional tools such as **Google's Magic Eraser** and **Adobe Lightroom** (August 2022)

Certifications

- **NVIDIA:** Fundamentals of Deep Learning
- **Coursera:** Machine Learning Stanford University
- **IBM:** Machine Learning with Python, Python for Data Science

Achievements

- **AWS AI-ML Scholarship**: Chosen for AWS Scholarship and training in AI-ML from a competitive pool of over 10,000 applicants. (Jun 2023)
- **NASSCOM Academic Grand Challenge Hackathon**: Ranked among the Top 6 Finalists from a pool of over 10,000 participants by building an Asset Bubble Burst Prediction System. (Nov 2022)
- **HEST 2023 Scholarship**: HEST 2023 Scholarship recipient selected out of more than 5000 Candidates through a National Level Examination. (Dec 2022)