

Ishan Mishra

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EDUCATION

Manipal University

B.Tech in Information Technology, Minor Specialization in Data Analytics
9.01 CGPA (3x Dean's Academic Excellence Awardee)

Jaipur, RJ

Aug. 2020 – August 2024

EXPERIENCE

Data Science Intern

April 2024 – November 2024

AiDash Inc.

Bangalore, KA

- Assisted Fortune 500 energy companies with asset risk analysis and designed a optimized scalable data pipeline using Google Earth Engine and Google Cloud, reducing data processing time by 70% .
- Worked with Large Vision Transformers (ViTs) for asset classification (Custom classes of Electrical Poles, Electrical Generators), increasing model accuracy by 35% and reducing false positives in risk assessment.

Research Intern

April 2023 – July 2024

Dept. Of Computational Biology, Carnegie Mellon University

Remote

- Automated Brightfield Microscope experiments, streamlining sample generation processes and saving over 100 hours of manual work, boosting operational efficiency.
- Conducted comparative analysis of image embeddings for video anomaly detection over UCF-Crime dataset (Fighting, road accident, burglary, robbery, etc), comparing cosine similarity during anomaly time-period.

RESEARCH PAPERS

Image Encryption using Chaotic Logistic Maps[Paper]

2021

- Conducted encryption performance tests, including SSIM, PSNR, Histogram Analysis, and Pearson Correlation Coefficient, achieving a Mean Squared Error (MSE) of 10337 on encrypted images.
- Research paper published in Communications in Computer and Information Science.

Deep Video Analysis for Bacteria Genotype Prediction[Paper]

2024

- Performed advanced video analysis on Brightfield Microscope videos of modified genes for genotype prediction.
- Researched and implemented classification techniques using transformers for frame-level saliency detection.
- Utilized Contrastive Language-Image Pre-Training (CLIP) with ResNet50 and ViT-B/32, achieving classification accuracy of 93%.

PROJECTS

Kidney Disease Classification | *Python*

2023

- Achieved 1st place at ACM MUJ Sigfest Datathon, competing against 1,000 participants and 300 teams.
- Conducted a comparative analysis of the proposed model against deep learning architectures like VGG-16 and AlexNet, achieving an accuracy of 98.06% on a dataset of 12,446 images.
- Developed a robust classification model, aiding diagnostic capabilities for kidney disease.

Vanilla Chatbot | *Python, HuggingFace*

2024

- Simple chatbot using HuggingFace transformers, gradio and hosted on HuggingFace spaces
- Chatbot uses Facebook's conversational AI - Blenderbot 400M Distill

Black-Scholes Options Pricing Tool | *Python, FastAPI, Streamlit, Docker*

2025

- Built a modular, containerized web app to compute and visualize Black-Scholes option prices and Greeks using FastAPI and Streamlit.
- Dockerized backend and frontend services with Compose for scalable and platform-independent deployment.
- Enabled user input of parameters including spot price, strike, volatility, and interest rate, with plans for historical and implied volatility features.
- Designed a clean UI to make complex financial modeling accessible for retail traders and finance professionals.

TECHNICAL SKILLS

Languages: Python, SQL

Developer Tools: Git, Visual Studio Code, Visual Studio, Jupyter Notebook, Tableau, Docker

Libraries: Pandas, NumPy, Matplotlib, Seaborn, Keras, Tensorflow, PyTorch, fastapi, langchain scikit-learn, huggingface

Skills: Machine Learning, Deep Learning, Data Analysis, Data Science