ROHAN BALI

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EDUCATION

UNIVERSITY OF MASSACHUSETTS DARTMOUTH

MS Data Science
Dec 2025 | Dartmouth, MA
Major GPA: 4.0 / 4.0

MANIPAL UNIVERSITY JAIPUR

BTech Computer Science
Jul 2021 | Jaipur, RJ
Major GPA: 6.3 / 10.0

LINKS

Github:// rohanbalixz
LinkedIn:// rohan-bali-301345293
Twitter:// @bali2ro
Portfolio://
https://medium.com/@bali2rohan

COURSEWORK

GRADUATE

Advanced Mathematical Statistics
Small World Networks
Data Visualization
High Power Computing
Cloud Computing
Market Research

UNDERGRADUATE

Data Structures and Algorithms
Python Programming
Machine Learning
Database Management Systems
Network Security
Human Computer Interaction
UNIX Shell Programming
Operating Systems
Social Network Analysis
Engineering Mathematics Network Security

SKILLS

PROGRAMMING

Python • R • Java • C • C++• SQL • HTML • CSS • PowerShell

TOOLS

Anaconda • D3js • Wolfram Mathematica • Microsoft Azure • AWS • GCP • TensorFlow • Apache Spark • Apache Hadoop • MongoDB • Sci-Kit Learn • • PyTorch • NumPy • Pandas • XGBoost • NetworkX • CUDA • OpenCV • ServiceNow

EXPERIENCE

CAPGEMINI | Software Engineer

Dec 2021 - Aug 2024

- Redesigned robust core components of an internal tool using Azure and AWS, reducing manual issues by 30%, and Automated operational tasks with Python and PowerShell, boosting efficiency by 25%.
- Led cross-functional code reviews, reducing deployment errors by 40%, and Integrated CI/CD pipelines, enhancing release cycles by 15%.

UPCRED | Machine Learning Intern

Aug 2021 – Dec 2021

- Designed a learning-based approach saving $650/month in operational costs, and reducing latency by 25%.
- Maintained a version-controlled dataset repository, improving reproducibility across projects by 30%.

ACADEMIC PROJECTS

DISASTER RISK MONITORING USING SATELLITE IMAGERY - NVIDIA DEEP LEARNING INSTITUTE

- Developed and deployed a deep learning segmentation model for real-time flood detection using satellite imagery.
- Leveraged a U-Net architecture with a ResNet backbone and robust pre-processing (normalization, augmentation, color conversion) to improve detection accuracy by 20%.
- Evaluated model performance with IoU (0.78) and Dice Score (0.82) metrics, ensuring precise delineation of flood-affected regions. Integrated the model with Triton Inference Server for scalable, low-latency inference in disaster monitoring scenarios.

DEEP LEARNING FOR HISTORICAL DOCUMENT RESTORATION AND ANALYSIS

- Developed a U-Net-based deep learning model to restore degraded historical document images, achieving improvements in visual clarity by 96%.
- Implemented an OCR pipeline with TensorFlow and Tesseract for accurate text extraction from restored documents and used NLP techniques (LSTM) to classify document types with 87% accuracy.

MOVIE RECOMMENDATION SYSTEM USING NLP AND MACHINE LEARNING

- Achieved an efficient recommendation pipeline by removing stop words, tokenizing metadata, and optimizing the feature space with the 5000 most frequent words.
- Engineered a Bag of Words model using CountVectorizer to transform textual data into numerical vectors. Computed cosine similarity to measure movie similarities.

BOSTON REAL ESTATE PRICE PREDICTION

- Built different Regression models for 10,000 properties for the prediction of prices, improving prediction accuracy by 15%.
- Engineered custom features like proximity to amenities, improving model performance by 12% for the price prediction.
- Evaluated the model with MAE: 2.5 and RMSE: 3.2

[1] R. Bali. Analyzing academic collaboration networks to understand research impact. *Wordpress UMassD*, 2024.