ROHAN BHATANE

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Available: Summer and Fall 2024 | github.com/bhatanerohan

EDUCATION

Northeastern University, Boston, MA — September 2023 - Present
Khoury College of Computer Sciences — Expected - May 2025
Master of Science in Artificial Intelligence — GPA: 3.83
Courses: Foundation of AI, Programming Design Paradigm, Machine Learning, Robotic Sensing and Navigation

Maharashtra Institute of Technology WPU, Pune, India
Bachelor of Technology in Computer Science and Engineering — August 2019 - May 2023
Related courses: Mathematics, AI, Data Structures and Algorithms, Object Oriented Programming — CGPA: 9.06

TECHNICAL KNOWLEDGE

Languages:	C++, Python, Java, HTML, CSS, SQL
Libraries/Tech:	PyTorch, TensorFlow, NLTK, Scikit-learn, matplotlib, Linux, OpenCV, MySQL, Docker, Tableau
Skills:	Machine Learning, Deep Learning, Reinforcement Learning, Generative AI, Computer Vision, SLAM, Natural Language Processing, Data Analysis, Slurm, Git, Langchain, EDA
Certificates:	Neural Networks and Deep Learning, Applied ML, Introduction to Data science in python

WORK EXPERIENCE

Bizamica Software, Pune, India
Machine Learning Intern — March 2022 - June 2022

- Spearheaded the research and development of machine learning model for advanced document image processing, significantly boosting operational efficiency through enhanced PDF and scanned document capabilities
- Formulated and optimized a machine learning model utilizing **OpenCV** and **CNN** for precise checkbox and radio button detection, slashing manual data entry by **95%** through accurate text extraction of key-value data pairs using **Azure OCR**
- Executed advanced **NLP** techniques, including **POS** and **NER** tagging for effective preprocessing and categorization of key-value data pairs, seamlessly integrating these enhancements into the company's IZDOX platform, achieving a **97%** accuracy rate and setting new industry standards
- Designed a **rule engine**, tailored for integration with the company's machine learning platform, enabling clients to input and train their specific document processing use cases

PERSONAL PROJECTS

BERT-Enhanced News Authenticity Analysis — January 2023 - April 2023

- Applied semantic similarity to identify fake vs. genuine news from accredited news sources like CNN, BBC, by **fine-tuning** a **BERT** model by leveraging **transfer learning** with the Stanford Natural Language Inference (SNLI) Corpus
- Created an **ETL** pipeline utilizing **NLTK** library for keyword extraction through **POS** and **NER** tagging, coupled with **web scraping APIs** to collect and analyze authentic news content in real-time with the fine-tuned model achieving a 92% accuracy rate

Image Processing Software — October 2023 - December 2023

- Implemented scalable and maintainable image processing software using **Java** adopted the **Model, View, Controller (MVC)** architecture, featuring advanced capabilities such as compression, blur effects, image splitting, and RGB histogram plotting
- Developed an interactive and intuitive user interface utilizing **Java Swing**, enhancing user engagement and functionality

Traffic Forecasting using Graph Neural Network and LSTM — October 2023 - December 2023

- Project aimed to enhance traffic speed forecasting by integrating **graph neural networks (GNNs)** for spatial analysis with **LSTM** for temporal trends, addressing the interconnected nature of road segments and historical data patterns
- Demonstrated marked improvement over basic forecasts, underscoring the model's capability to accurately predict future traffic speeds by leveraging **both spatial and temporal** data insights

Customer Segmentation using K-means — June 2023 - August 2023

- Refined a dataset of 542,000 rows and 8 columns, tackling **data cleaning**, missing values, and type conversions, computed RFM (Recency, Frequency and Monetary value) metrics to assess customer purchase behaviors and values.
- Leveraged **K-Means clustering** for customer segmentation based on RFM scores, developing targeted marketing strategies to boost retention and increase revenue