ANAGHA PATIL

Portfolio ◇ LinkedIn ◇ GitHub

EDUCATION

PES University
Bachelor of Technology in Computer Science and Engineering 2020 - 2024
CGPA: 8.89. *Specialisation:* Machine Intelligence and Data Science
Relevant Coursework: Machine Intelligence, Deep Learning, Natural Language Processing, Data Analytics, Big Data
Achievements: 4x recipient of MRD Scholarship (40% tuition fee waiver for top 20%), 2x recipient of DAC Scholarship

TECHNICAL SKILLS

Languages: Python, Java, C
AI/ML: PyTorch, TensorFlow, OpenCV, pandas, numpy, scikit-learn, HuggingFace, NLTK, Keras, LangChain
Data & Visualization: Pyspark, MySQL, PyPlot, SeaBorn, Voxel51, Plotly, Tableau, Dash
Cloud/Web: Azure ML, Databricks, AWS, Git, Docker, HTML/CSS, Django

EXPERIENCE

Senior ML Engineer Aug 2024 - Present
Bosch Global Software Technologies
- Working on BEV based 3D object detection, depth estimation and keypoint estimation for 2D object detection for traffic elements like poles, boomgates and construction zone objects for ADAS development in autonomous vehicles
- Building end-to-end pipelines including data preparation, model design, training and deployment for object detection across multiple camera types
- Improved detector model performance from 60% to over 85% through targeted optimization and architectural enhancements
- Took initiative to lead a team of 10 developers (junior to senior level) to enhance coding standards and software craftsmanship
- Received Synergic Force Award for collaboration with Bosch Germany colleagues and demonstrating initiative and motivation to contribute to strong team alignment and engagement

MLOps Intern Jan - May 2024
Bosch Global Software Technologies
- Worked in the traffic lights detection team for ADAS development to improve performance of underrepresented classes by ∼25% by generating and training detector on ∼1L augmented traffic lights data
- Identified and resolved a bug leading to imprecise evaluation metrics hence ensuring accurate metric assessments post-training

MLOps Summer Intern June - July 2023
Bosch Global Software Technologies
- Worked on ADAS development, mapping model predictions on traffic images to geospatial coordinates, enabling identification and analysis of underperforming regions on the map

TEACHING ASSISTANTSHIP

PES University, *Course:* Machine Intelligence Aug - Dec 2023
- Prepared course slides, assignments and lab material and mentored ∼60 students in theory and course lab work
- Organised and guided students in the Machine Intelligence Hackathon, including formulation of the problem statement

PROJECTS

Lecture Video Doubt Clarification System
Designed and implemented a real-time lecture video QA system using transformers, LLMs and multimodal embeddings, integrating video frame features with transcript text for domain-specific doubt resolution

Market Basket Analysis using ML algorithms
Built a predictive model using ensemble methods and logistic regression to identify purchasing patterns for grocery stores

Text Summarisation of Literature Papers
Developed an extractive summarization system to identify key sentences, apply semantic clustering and sentence ranking, to enhance coherence and information retention, and evaluated performance to ensure alignment with human written summaries

Yet Another MapReduce
Implemented Hadoop's MapReduce in Python using Socket Programming for master-worker node communication, supporting custom input, mapper and reducer files, with adjustable worker node count for read, write or map reduce operations

PUBLICATIONS

[1] Transformative Approaches to E-Learning Videos: Generative vs. Extractive Question Answering for Enhanced Doubt Clarification, **CODEAI 2024**
[2] LVDCS: Minimising Doubts in Distance Learning, **ISDIA 2025** (Accepted for Publication)