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

## EXPERIENCE

**ML Engineer** Aug 2024 - Present
*Bosch Global Software Technologies*
- Working in the Poles and Boom Gates Detection team for ADAS development in autonomous vehicles
- Built the data preparation and loading pipeline for boom barrier detection
- Developing deep neural networks, including data preparation, loading, and network training, for pole object detection on different camera types
- Working on 3D object detection of poles in LiDAR point clouds
- 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 in autonomous vehicles
- Generated ∼1L augmented traffic lights data and engineered an end to end pipeline to perform training on Azure ML
- Improved traffic lights detection performance of underrepresented classes by ∼10% to ∼25% through augmentation
- Identified and resolved a bug leading to imprecise evaluation metrics, ensuring accurate metric assessments post-training

**MLOps Summer Intern** June - July 2023
*Bosch Global Software Technologies*
- Worked under Video Perception team for ADAS development for autonomous vehicles
- Visualised and mapped traffic images to their corresponding geo-locations on the map
- Logged custom metrics for jobs in Azure Machine Learning and displayed them in Microsoft Teams

## TEACHING ASSISTANTSHIP

PES University, *Course:* Machine Intelligence Aug - Dec 2023
- Prepared course slides and assignments
- Mentored ∼60 students in course lab work
- Organised and guided students in Machine Intelligence Hackathon

## PROJECTS

**Lecture Video Doubt Clarification System** | Capstone Project
Developed interactive, real-time user query response system for e-learning videos utilizing Transformers, LLMs, and CV

**NSE Market Data Analysis**
Developed visualisation charts and generated buy/sell signals for real time NSE market data from Moneycontrol

**Market Basket Analysis using ML algorithms**
Analysed customer buying patterns using XGBoost, RFC and Logistic Regression to increase grocery store sales

**Text Summarisation of Literature Papers**
Developed a system for literature paper summarisation via extractive summarisation

**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)