

# ANAGHA PATIL

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## EDUCATION

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### 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

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**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

**Cloud/Web:** Azure ML, Databricks, AWS, HTML/CSS, Django, Git

## EXPERIENCE

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### 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 initial 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

### 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 EXPERIENCE

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### Teaching Assistant

Aug - Dec 2023

PES University *Course:* Machine Intelligence

- Prepared course slides and assignments
- Mentored ~60 students in course lab work
- Organised and guided students in Machine Intelligence Hackathon

## PROJECTS

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### 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

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[1] Transformative Approaches to E-Learning Videos: Generative vs. Extractive Question Answering for Enhanced Doubt Clarification, **CODEAI 2024** (Accepted for Publication)

[2] LVDCS: Minimising Doubts in Distance Learning, **ISDIA 2025** (Accepted for Publication)