

# Surabhi Verma

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*Software Engineer with a strong foundation in Java and backend development, and hands-on experience in building RESTful services and cloud-native applications on GCP. Research background in AI/ML with an IEEE-published work on efficient Human Activity Recognition using deep learning and edge deployment techniques. Skilled in full-stack development, ML model optimization, and real-world problem solving.*

## SKILLS

**Skills:** Python, Java, C++, C | MySQL, PostgreSQL, JDBC | HTML, CSS, Angular (Basics) | Spring Boot, REST APIs, OpenCV, TensorFlow, Keras, NumPy, Pandas, Scikit-learn | GCP, Vertex AI (Basics), Cloud Fundamentals | Git, Maven | DSA, OOPS, ML, DL

## WORK EXPERIENCE

### Software Engineer @ LTI Mindtree

*Bengaluru / Sept 2025-Present*

- Completed structured training in **Java, Angular, and Google Cloud Platform (GCP)** as part of the onboarding program.
- Built **full-stack application components** using **Spring Boot (backend)** and **Angular (frontend)**.
- Developed and tested **RESTful APIs** and implemented **JDBC-based database connectivity** with MySQL.
- Gained hands-on exposure to **cloud-native application development** and **core GCP services**.
- Worked on **Vertex AI use cases**, understanding model deployment workflows and basic ML pipelines on cloud.
- Used **Maven for build automation** and **Git for version control** in collaborative project environments.
- Participated in internal projects and assessments simulating **real-world enterprise software development**.

### Research Intern @ NIT Bhopal (MANIT)

*Bhopal / Jan 2025-May 2025*

- Co-authored an **IEEE Sensors Journal** paper (Published) titled "[A Real-Time Deployable Attention-Driven CNN-LSTM Framework for Human Activity Recognition using Wearable Sensors](#)", proposing a lightweight attention-guided deep learning model for real-time HAR.
- Developed and optimized a hybrid **CNN-CBAM-LSTM-Attention architecture** achieving up to **99.7% accuracy** across mHealth, MotionSense, and UCI-HAR datasets with minimal preprocessing.
- Implemented structured pruning and quantization, compressing the model to **130.8 KB** with **13.5 ms inference latency** on Snapdragon-class devices, enabling real-time edge deployment.

## PROJECTS

### Automatic Licence Plate Recognition System

*(March-April 2024)*

- This project utilizes the **YOLOv8 object detection algorithm** to accurately and quickly locate vehicle license plates in real-time. Hypertuned model achieved **94% precision** to detect license plates.
- This project employs the **EasyOCR library** to read and interpret the characters on the detected license plates, supporting multiple languages and ensuring robust text recognition.
- It combines YOLOv8 and EasyOCR to create an efficient and reliable system for applications such as traffic monitoring, automated toll collection, and security systems.

### Bitcoin Prediction System

*(November 2023)*

- This project integrates **sentiment analysis and financial indicators** to predict Bitcoin prices.
- It utilizes diverse datasets, including historical prices and social media data, and employs **Natural Language Processing techniques**.
- Machine learning algorithms are applied to develop a predictive model, with rigorous backtesting and temporal analysis providing valuable insights for investors.

## EDUCATION

### Bachelor of Technology in Artificial Intelligence and Machine Learning | CGPA : 8.72 / 10.00

Madhav Institute of Technology and Science, Gwalior, M. P.

*(2021-2025)*

### CARMEL CONVENT SENIOR SECONDARY SCHOOL Bhopal, M. P.

12th (CBSE) Percentage: 86% (2020-2021)

10th (CBSE) Percentage: 88% (2018-2019)