Mugdha Chavan

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EDUCATION

- **Bachelor of Technology in Computer Science and Engineering (AI/ML)** — *2023 - 2026*
  KIT's College of Engineering, Kolhapur (Autonomous) — CGPA: 8.86
- **Diploma in Computer Engineering** — *2020 - 2023*
  Dr. D.Y. Patil Polytechnic, Kolhapur — Percentage: 87.09
- **Secondary School Certificate (SSC)** — *2020*
  Maharashtra High School and Junior High School, Kolhapur — Percentage: 92.20

EXPERIENCE

- **Qualitas Techno Solutions** — *2022*
  Intern — Kolhapur

  – Authored a technical report on 51+ emerging IoT technologies, influencing the company's choice of two new prototyping platforms.
  – Improved prototype functionality by 20% through resolving hardware-software integration issues

PROJECTS

- **Smart City Solutions: Automatic Garbage Tracking System**
  An IoT-based automated system

  – Built end-to-end IoT system using Arduino and GPS to reduce operational costs and fuel consumption through route optimization.

- **Surveillance: Real-Time Insight System**
  Object detection project

  – Cut manual monitoring needs by 60% by developing a Python surveillance system with real-time SMS alerts and activity logs.
  – Achieved a 95% accuracy rate in person detection and tracking by optimizing a high-fidelity, real-time algorithm.

- **Real-Time Signal Adaption for Multi-Directional Heavy Traffic**
  An object detection project

  – Designed a highly scalable system prepared for citywide deployment and integration with existing smart city infrastructure.

- **HappyScore AI**
  Predicting national happiness using AI

  – Processed the World Happiness Report dataset containing socio-economic indicators across 150+ countries.
  – Interactive data visualizations built using Matplotlib and Seaborn, uncovering key correlations between GDP, social support, and happiness.
  – Reduced manual analysis time by 40% by providing data-driven insights to classify countries by well-being

SKILLS

Programming Languages: C, C++, Java, Python
AI/ML and Data Science: YOLOv8, TensorFlow, OpenCV, Pandas, NumPy, Matplotlib, Scikit-learn
Web Development: HTML, CSS, JavaScript, Flask
Databases: PostgreSQL
IoT/Embedded: Arduino, Hardware-software integration
Generative AI: Foundation models (GPT, Llama, BERT), Transformers, Prompt Engineering, Fine-tuning RLHF, Diffusion GANs, Retrieval Augmented Generation (RAG), Synthetic Data Generation
Other Tools: Overleaf, Version Control(Git)

Achievements and Awards

- **Finalist -** SHODH-2022 at JSPM, Pune _2022_
- **Winner -** Project Based Learning Competition _2024_
- **Runner-up -** Project presentation competition. _2024_

Publications

- **2024 IEEE International Conference |** DOI: 10.1109/DISCOVER62353.2024.10750569 _2024_