

# Mugdha Chavan

+91-9158425353 | [mugdhachavan2727@gmail.com](mailto:mugdhachavan2727@gmail.com) | <https://mugdhachavan.github.io/Portfolio/>  
<https://www.linkedin.com/in/mugdha-chavan-b49417257/>

## 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.
- Textify**  
*React.js, JavaScript (ES6)*
  - Developed Textify, a responsive web application using React.js for real-time text analysis and transformation.
  - Implemented client-side features including text formatting, word and character counting, and dynamic UI updates.
  - Applied component-based architecture, state management, and Bootstrap to ensure performance and responsiveness.
- JanPath – Winning Elections with Precision Analytics**  
*Data Engineering, Analytics, Backend and API*
  - Developed JanPath, a precision analytics-based Election Management System with real-time data pipelines, predictive insights, and AI-powered automation. Provided scalable full-stack solution that is data-driven and performance-optimized.
  - Role-based dashboards and an intelligent chatbot to assist campaign decision-making.

SKILLS

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- **Programming Languages** - C, C++, Java, Python
- **AI/ML and Data Science** - YOLOv8, CNN ,TensorFlow, OpenCV, Pandas, NumPy, Matplotlib, Scikit-learn
- **Web Development and Databases** - HTML, CSS, JavaScript, Node.js, React, Flask, PostgreSQL, MySql, MongoDB
- **IoT/Embedded** - Arduino, Hardware-software integration
- **Generative AI** - Transformers, Prompt Engineering, Fine-tuning , GANs, Synthetic Data Generation
- **Other Tools-** Tableau, PowerBI

ACHIEVEMENTS AND AWARDS

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| • <b>Finalist</b> - SHODH-2022 at JSPM, Pune   National Level Project Competition | 2022 |
| • <b>Winner</b> - Project Based Learning Competition                              | 2024 |
| • <b>Runner-up</b> - Project presentation competition.                            | 2024 |

CERTIFICATIONS

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- **Google (AI/ML)** - Completed a Google-certified course covering the principles of machine learning, model construction, assessment, and real-world AI applications.
- **MotionCut (Java Frontend)** - Demonstrated practical experience in Java-based frontend development and UI implementation.
- **1Stop (Java Full Stack)** - Demonstrated hands-on skills in building full-stack applications using Java with integrated frontend, backend, and databases.

PUBLICATIONS

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| • <b>2024 IEEE International Conference</b> - DOI: 10.1109/DISCOVER62353.2024.10750569  | 2024 |
| • <b>2025 IEEE International Conference</b> - DOI: 10.1109/ASIANCON66527.2025.11281274  | 2025 |
| • <b>ICRIC 2024, Volume 1 (Springer)</b> - DOI: <a href="https://doi.org/10.1007/978-981-96-5969-2_21">https://doi.org/10.1007/978-981-96-5969-2_21</a> | 2025 |