Esha Joshi

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EDUCATION

- **Indian Institute of Information Technology (IIIT) Pune** — *November 2022 - May 2026*
  BTech in Electronics and Communication
- **Balbhim College of arts, science and commerce, Beed** — *June 2021*
  Higher Secondary Certificate
- **Sanskar Vidyalaya, Beed** — *May 2020*
  Secondary School Certificate

WORK EXPERIENCE

Infosys Springboard Internship — *January 2025 - March 2025*
AI & ML Intern — *Remote*

The **Object Recognition System** project aims to develop a system capable of identifying objects in real-time using machine learning algorithms. This system will enable the identification of various objects captured by a laptop's camera.

PROJECTS

VisionAssist – Smart Assistive Device for the Visually Impaired   *Github*

Python, PyTorch, OpenCV, YOLOv8/YOLOv11, Raspberry Pi 3, Ultrasonic Sensor, Servo Motor, ExDark dataset, Text-to-Speech

- YOLOv8 & YOLOv11-based object detection fine-tuned on the ExDark dataset to enable robust low-light obstacle detection.
- Integrated Raspberry Pi, ultrasonic sensors, and servo motor to perform real-time obstacle distance and direction estimation.
- Delivered auditory alerts for obstacles within a 4-meter range using text-to-speech feedback.
- Achieved precision of 81.4% and recall of 74.3% of a model across varied lighting conditions with optimized model inference for edge deployment.

Fall Detection System – Real-Time Safety Device for Elderly & Mobility-Impaired Users   *Github*

Python, scikit-learn, ESP32, IMU Sensor (Accelerometer & Gyroscope), KNN, Random Forest, XGBoost, CatBoost, React Native

- Developed a real-time fall detection system using ESP32 and IMU sensors to collect high-frequency motion data with high precision.
- Trained and benchmarked multiple machine learning models (KNN, Random Forest, XGBoost, CatBoost); KNN achieved 98% fall detection accuracy and 92% activity recognition accuracy.
- Implemented lightweight models suitable for edge deployment to ensure low latency, low cost, and privacy without relying on camera-based systems.
- Built a cross-platform mobile app (Android/iOS) using React Native with real-time fall alerts, SOS functionality, live location tracking, and emergency contact calling.

CERTIFICATES

- **Supervised Machine Learning: Regression and Classification** — *April 2025*

  Coursera
  - basics of ML, linear regression, logistic regression, binary classification models in Python using NumPy and scikit learn.
- **Graphs Programming Camp** — *December 2023*
  The Job Overflow
  - 17+ advanced DSA- Graphs methods in 3 days with Codeforces Master, Manas Kumar Verma. Achieved college Rank 5 in post-camp contest.

SKILLS

- **Programming Languages:** Python, JavaScript C++, C, SQL
- **Data Analysis:** Data cleaning, preprocessing, EDA, data visualization
- **Technologies:** Machine Learning, Deep Learning, MySQL, PyTorch, Pandas, scikit-learn
- **Coursework:** Data Structures and Algorithms, Object-Oriented Programming, Database Management Systems, Operating Systems
- **Frontend:** HTML, CSS, Tailwind CSS, React.js
- **Backend**: Flask

ACHIEVEMENTS

- Chosen as a Mentee for the prestigious **INSPIRE Mentorship Program** conducted by **Autodesk.**
- Solved 500+ problems on the competitive programming platforms such as Leetcode, GeekForGeeks.