Aastha Ketan Kataria

K J Somaiya College of Engineering, Mumbai
B.Tech Information Technology – Honours in AI & ML
HSC: 2020-2022 — SSC: 2009-2020
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About me

Curious and driven B.Tech Information Technology student with Honours in AI & ML. I leverage my passion for learning to lead high-impact projects, resulting in a win at the Smart India Hackathon 2024 and leadership of The Marine Robotics Team. My hands-on experience includes developing solutions in computer vision (YOLOv8), LLMs, and autonomous systems. I am passionate about applying my skills to solve complex problems and am eager to contribute to and grow with a forward-thinking team.

SKILLS

Languages & Frameworks: C, C++, Python (Numpy, Pandas, Matplotlib, OpenCV, Kivy), JavaScript, HTML, CSS, Django, React, SQL, Java, PHP, Flutter, RAG, LLM fine-tuning.

Tools & Platforms: AutoCAD, SolidWorks, Matlab (Simulink, Stateflow, Image Processing), Arduino, Git, Docker.

INTERNSHIPS

Godavari Biorefiniaries — *Project Lead (2024-2025)*
Developing a real-time detection system using imaging and AI-based object detection models (YOLOv8) to identify contaminants in sealed sugar bags and cane bundles, enhancing quality control in industrial sugar production lines.

CredArtha — *AI Engineer Intern (2025)*
Assisted in financial vertical LLM research, fine-tuning, dataset preparation, RAG experimentation, and POC development while documenting findings and outcomes; Clustering PC's.

Virtual Labs — *(2025)*
Developed cryptography ciphers and created a virtual lab for students.

PiPay — *(2024)*
Developed WhatsApp workflows for financial companies for products like Loan Against Property (LAP) and Supply Chain Finance (SCF).

GrapeVine — *Content Writer (2023-24)*
Contributed to the content writing segment for a prominent youth engagement company specializing in youth-centric events and services.

HACKATHONS COMPETITIONS

Smart India Hackathon 2024 - WINNER: Developed 'SimpleSwastha', a hospital management app.

Myntra Hackathon - WeforShe 2024 - PRE-FINALIST: Pre-finale round participant for a major industry hackathon.

ISRO Bharatiya Antariksh Hackathon 2024: Participated on solar energy harvesting for civilian rooftops.

Smart India Hackathon 2023: Created 'MindBuddy', a Mental Health platform with quizzes, meditation, games, and fitness tracking for frontline workers. Cleared internal hackathon selection.

Google development Hackathon 2025: Developed 'MoneyMind', a financial assistant app using AI Agents to help users understand finance, assess risk, and stay updated on news and financial products.

Idea Hackathon 2025: Developed 'AI Vyom', a banking app for Union Bank with liveliness detection, service ticket generation, and user tracking.

PROJECTS MINI PROJECTS

The Marine Robotics Team (TMRT)   *Team Captain/Co-Captain*
Led a team in developing multiple robotics projects:

- **Sewage Cleaner 'Nisrag':** (In Progress) Mini robot for debris removal and waste data collection from sewage.
- **Desilting Robot:** Deploys a small robot to remove silt from lakes, enhancing water-holding capacity.
- **Groundwater Mapping:** Using drones with electromagnetic sensors for data collection and analysis.
- **Autonomous Vehicle:** Integrated LiDAR, depth sensor, and TFlunas in ROS on a test vehicle.

Onyx Aerodynamics Club: Developed an OpenCV-based image detection system for drones, enabling precision targeting and dropping mechanisms.

Multipurpose Farm Equipment: Designed a single-machine robot to assist farmers in various primary tasks.

RESEARCH PAPERS

DeepPET-3D: A 3D Convolutional Neural Network for Early Detection of Alzheimer's Disease Using 18F-FDG PET Imaging.

Machine Learning-Based Disease Prediction: System using symptom analysis.

Comparative Analysis of PPO in Quadrupedal Locomotion: An Empirical Investigation of Negative Transfer Effects.

VOLUNTEERING

Mentor, Agastya Foundation JPMC Social Innovation Challenge
Guided a team of school students in developing "Helpy", a STEM-based mechanical picker to help BMC workers safely handle biohazardous waste. Achieved Grand Finalist recognition.