



Omdena Local Chapters

**COMBATING PLASTIC POLLUTION IN THE
GANGES RIVER USING COMPUTER VISION
AND ROBOTICS**

NOVEMBER 15, 2024



OMDENA DASHBOARD



CHALLENGE BACKGROUND

This project aims to leverage AI, robotics, and community engagement to address the critical issue of plastic pollution in one of the world's most important river systems. By creating an efficient, scalable solution for plastic interception, it has the potential to significantly impact environmental health, community well-being, and set a precedent for river cleanup efforts globally.

The Ganges River, flowing through densely populated areas of India, is one of the world's most polluted rivers. In Uttar Pradesh and Bihar, two of India's most populous states, the river faces severe plastic pollution, threatening aquatic life, human health, and livelihoods dependent on the river.

PROBLEM STATEMENT

Despite various cleanup efforts, the sheer volume of plastic waste entering the Ganges, particularly in Uttar Pradesh and Bihar, overwhelms current manual collection methods. There's a critical need for an efficient, scalable solution to intercept plastic waste before it reaches the Bay of Bengal.





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*The environment must be
maintained in order to protect the
survival of life in the future.*

PROJECT TIMELINE

Data collection and literature review
Data preprocessing
Feature engineering
Model building
Model integration & Deployment
Research paper/blog(optional)



- 1. Computer Vision in Aquatic Environments**
- 2. Environmental Sensing and IoT**
- 3. Hydrodynamics and River Ecosystem Modeling**
- 4. Circular Economy and Waste Management**
- 5. Community-Based Environmental Management**
- 6. Environmental Impact Assessment**
- 7. Ethical Considerations in Environmental AI**
- 8. Localization and Cultural Adaptation**
- 9. Continuous Learning Systems**
- 10. Project Management**
- 11. Data Journalism**



NEXT STEPS

- Join Slack Channel
- Vote for Proposed brainstorming session
- Do Preliminary research and post in Project Tracker
- Let me know if you want to be Task Co-Leads
- Lets continue discussion on slack





Please reach out to us at:

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