Raj Mate

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Profile

Machine Learning Intern at Karage Robotics, selected after winning the Ideathon at NIT Bhopal. Skilled in iOS development using Swift, with experience building a predictive pest management system. Contributed to smart agriculture projects through hands-on work in ML, mobile development, and data integration.

Skills

- IOS Development
- Swift
- Java
- Android Development
- 3D Modelling
- SwiftUI

Internships

April 2025 to September 2025

Karage Robotics
Machine Learning Intern

- Achieved 1st place at Ideathon, NIT Bhopal (top 5% of 200+ teams); selected for internship at Karage Robotics.
- Constructed a predictive model within the ML-powered software, enabling precise pesticide application, resulting in a significant reduction in environmental impact by 25% compared to traditional methods.
- Achieved 30%+ reduction in pesticide use through predictive pest detection, advancing smart agriculture efficiency.
- **Developed a real-time monitoring system** that tracks soil health and pest activity, improving crop management strategies and decreasing pesticide reapplication by **15%**.
- **Collaborated with local farmers** to conduct a pilot program, validating model accuracy and improving pesticide application timing, leading to a **20% increase in crop yield**.

Achievements

- Awarded **SolVIT Hackathon at VIT Bhopal (Top 1 of 100+ teams)**; Created a **Hospital Resource Management System** integrating **ARIMA** and **XGBoost** to forecast resource demand. Developed a companion **iOS app** for **real-time patient tracking**, improving allocation efficiency by 40%.
- The system's predictions were validated with **95% accuracy**, resulting in enhanced capacity planning and patient care quality.
- **Won Ideathon at NIT Bhopal (Top 1 of 200+ teams)**; proposed and prototyped an **automated pesticide management system** trained on a **synthetic dataset**. Designed a **mobile app** for field workers to track spray history, enhancing data accuracy and operational traceability.
- Improved operational traceability, with **100% accuracy** in tracking pesticide usage across different locations.

Education

Expected in June 2026 **VIT Bhopal University**

Bhopal
Specialization in Gaming Technology
B Tech
Cumulative CGPA :- 7.85/10

April 2022 **NPPS**
Kolhapur
Physics, Chemistry, Mathematics, Computer Science
Senior Secondary
Percentage :- 82%

April 2020 **Lexicon International School**
Pune

Secondary
Percentage :- 79%

Projects

- Designed **"Mess Food Monitoring" mobile app** (Jan–Mar 2025) to streamline meal info access for hostel students at VIT Bhopal.
- Built **time-triggered UI** that auto-displays upcoming meals and **updates menus in real-time**, reducing manual checks by 100%.
- Applied skills in **UI/UX design**, **time-based logic**, and **real-time data handling** to solve a practical, high-frequency problem for 500+ users.
- Integrated a user feedback mechanism into the iOS app, collecting 200+ responses in the first month that directly informed feature enhancements and improved user satisfaction scores.