Om Kailas Sontakke

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EDUCATION

Rajiv Gandhi Institute of Petroleum Technology (RGIPT) — *Amethi, Uttar Pradesh*
*B. Tech in Electrical Engineering: Major in E-Vehicle Technology - CPI: 6.43** — *Oct 2022 - May 2026*

Milind College of Science — *Sambhajinagar, Maharashtra*
Maharashtra state board (Intermediate) - Percentage: 84.17% — *Aug 2019 - Jun 2021*

A. K. Waghmare High School — *Sambhajinagar, Maharashtra*
Maharashtra state board (Matriculation) - Percentage: 81.20% — *Jun 2018 - Mar 2019*

INTERNSHIP

Research Intern — *June 2024 - Ongoing*
Indian Institute of Information Technology Dharwad (IIIT-DWD) — *Dharwad, Karnataka*
Mentor: Dr. Prakash Pawar *(prakashpawar@iiitdwd.ac.in)*

- ***Battery Management System (BMS):*** *Developing a Python based Battery Management System (BMS) for an* ***Electric Vehicle (EV)*** *using* ***NumPy*** *and* ***SciPy*** *to accurately estimate the* ***State of Charge (SoC)*** *of its lithium-ion battery, involving the implementation of a* ***Coulomb Counting Algorithm*** *and the utilization of a simplified equivalent circuit model to ensure* ***Precise Display*** *and* ***Control Systems.***

Information Technology (IT) Intern — *Dec 2023 - Feb 2024*
Thane Smart City Ltd, TULIP, MoHUA, GOI — *Thane, Maharashtra*
Mentor: Mr. Sachin Choudhari *(smartcity@thanecity.gov.in)*

- ***Human Resource Management System (HRMS):*** *We successfully spearheaded the implementation of a comprehensive HRMS with the primary objective of enhancing* ***employee data accuracy****, resulting in significant improvements for the data of* ***over 1000 employees****.*
- ***Enterprise Resource Planning (ERP):*** *We successfully implemented an ERP system with* ***cross-functional teams*** *to optimize business processes and achieve seamless software integration, resulting in enhanced operational efficiency and improved data accuracy for* ***over 500 records****.*

PROJECT

Modeling and Estimation of Battery Parameters for EVs — *Ongoing*

- *Developing battery models to* ***simulate real-time performance*** *and* ***estimating key parameters*** *such as State of Charge* ***(SoC)****, State of Health* ***(SoH)****, State of Power* ***(SoP)****, and* ***internal resistances****. This approach enables efficient energy management, extends battery life, and supports optimal decision making within* ***Battery Management Systems (BMS)****, which are vital for the* ***safe*** *and* ***reliable operation of electric vehicles (EVs)****.*

Diabetes Prediction Using ML — *Oct 2023*

- *The model, trained and tested using Python in Machine Learning on a dataset of* ***768 rows*** *and* ***9 columns*** *from Excel, identified diabetes predictors such as glucose levels, BMI, age and blood pressure aligning with medical knowledge. It achieved an* ***accuracy of 71.43%*** *on the test data.*

House Price Prediction Using ML — *Sept 2023*

- *We implemented a house price prediction model using a dataset of* ***20,639 rows*** *and* ***9 columns*** *from Excel, employing Machine Learning techniques in Python. This involved preprocessing the data, applying* ***regression algorithms*** *and evaluating performance using metrics such as* ***Mean Absolute Error (MAE)*** *and* ***R-squared****.*

TECHNICAL SKILL

Prog. Languages: Python, C

Libraries: NumPy, SciPy, Pandas, Scikit-learn, Matplotlib

Software and Modelling Tools: Machine Learning, MATLAB - Simulink, AutoCAD, Google Colab

ACHIVEMENT & CERTIFICATION

- Receiving the **Central Government Scholarship (NSP)** on a **Merit-Basis** throughout the B.Tech degree.
- Qualified **JEE Advanced** (2021 & 2022).
- Completed Cyber Samurai Program in **Cyber Defence** from **IIT-Jodhpur** and **Whizhack Technologies**.
- Awarded the **National Cadet Corps** (3 MAH Naval Unit NCC) Certificate by the **Deputy Director General of NCC** after completing **two years** of successful training.
- Achieved a **Silver Medal** in a marathon of approximately 5 km at the **3 MAH NAVAL UNIT NCC, Pune**.