PARTH BHALERAO

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My Portfolio || LinkedIn || GitHub || YouTube

EDUCATION

Santa Clara University, Santa Clara, CA

- Master's in Computer Science and Engineering**. (**Jun 2025) – GPA : 3.575 / 4.00

Shri Ramdeobaba College of Engineering and Management, Nagpur, India

- Major: Electronics and Communication Engineering - GPA: 9.13/10. (Jun 2023)
- Minor: Computer Science and Engineering - GPA: 9.4/10.

TECHNICAL SKILLS

- Languages: Java, C++, Python, SQL, MATLAB, Bash, HTML/CSS.
- Tools/Framework: Git, PyTorch, NumPy, Pandas, TensorFlow, Java Swing, AWT, Collections.

COURSEWORK

- Operating Systems, Machine Learning, Database Management, Advanced Algorithms, Computer Architecture.
- Computer Networks, Software Engineering and Project Management, Embedded Programming.

EXPERIENCE

Student Assistant
Provost Office at Santa Clara University, Santa Clara, CA Jan 2024 - Present

- Assisting and handling ongoing projects related to web-design, creating and hosting websites for SCU.
- Data Processing, Automation and Scraping of important and required contents.

Machine Learning Intern
Innovative Technologies, Delhi, India (Remote) Jun 2022 - Nov 2022

- Developed an end-to-end Application to predict the risk of heart disease, implementing LightGBM framework.
- Tech Used: Python, Flask, ML, HTML/CSS.

Embedded Systems Intern
Embedded Creative Design Solutions, Nagpur, MH Dec 2021 - Apr 2022

- Developed a complete ecosystem from scratch to implement a density-based traffic signal control system, with IoT integration.
- Tech Used: Embedded C, IoT.

SELECTED PROJECTS (Other Projects)

American Sign Language Detection - Machine Learning, PyTorch, TensorFlow (Article-Link)

- Performance analysis of the YOLO-v5 object detection algorithm for American Sign Language on various computational devices, with different configurations, for different image size and weight combinations.

University Management System - Java, OOP, Swing, AWT, MySQL (GitHub-Link)

- Created a desktop application for university management along with MySQL database integration, login & logout facility, add student or faculty information, exam details, and more.

Finance Insight Extractor – Python, OpenAI API, Pandas. (GitHub-Link)

- This tool is a streamlit based app that uses openai api to extract key financial measures such as company name, stock symbol, revenue, net income etc. from a finance related news article.

Covid-19 Vaccine Availability Slot Checker – Python & Tkinter. (GitHub-Link)

- This project utilizes Python and the Indian government's public API to address the challenge of COVID-19 vaccine slot scarcity. By sending API GET requests and retrieving JSON data, users can check vaccine availability by inputting area Pincode and desired date, aligning with the government's online appointment booking mandate through the COWIN portal.

RESEARCH WORK

(IEEE-Scopus)

- ECG Classification using Machine Learning on Wave Samples for Indian Population. (Publication)
  - This research seeks to develop machine-learning models for identifying cardiac rhythm abnormalities using only 3 ECG leads, reducing setup complexity, and evaluating algorithm accuracy using a dataset derived from real ECG records of heart patients in Nagpur city.
- Design and Implementation of a Dynamic Traffic Signal System with Digital Circuit and IoT Integration for Efficient Traffic Management. (Publication)
  - This research aims in designing and implementing a digital decoder circuit with an optimal size for an efficient management of traffic system with multiple lanes along with IOT support and shows simulation results developing python GUI.

(Springer-Scopus)

- Point of Care Device for Measurement and Analysis of Vital Parameters. (Publication)
  - This research proposes a compact, non-invasive device to measure body temperature, ECG, PPG, heart rate, and blood pressure, emphasizing minimal form factor and presents a prototype with performance analysis and future enhancement possibilities for improved accuracy.

ACHIEVEMENTS

- 1st Prize for best research idea presented at the International Biomedical Engineering Conference 2022 conducted at RCOEM.
- Worked as a research assistant under Prof. Ashlesh Jaiswal & Prof. Prasheel Thakre in final year and as a project guide for juniors.
- Scholarship worth 10,000 Rupees from college for being department topper and having an excellent GPA.
- Patent published for point of care device for measurement and analysis of vital parameters.
- Solved 150+ DSA Problems on Leetcode, Hackerrank, Codechef & GFG.