

# Swayam Ruparel

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## EDUCATION

### Fr. C. Rodrigues Institute of Technology, Navi Mumbai

2024 – 2028

B.Tech — Computer Engineering | CGPA: 8.25

Relevant Coursework: Data Structures & Algorithms, Operating Systems, Computer Networks, Analysis of Algorithms, IoT

## TECHNICAL SKILLS

**Languages:** C, C++, Java, Python, JavaScript, HTML/CSS

**Frameworks:** React Native, React

**Tools & Platforms:** Git, GitHub, Firebase

**CS Core:** DSA, Operating Systems, Computer Networks, Analysis of Algorithms, IoT

## PROJECTS

### MedSync 2025 – 2026

React Native, Firebase [github.com/gitruparel/MedSync](https://github.com/gitruparel/MedSync)

- Built a cross-platform mobile healthcare app for managing appointments, medical records, and prescriptions with real-time Firebase sync.
- Implemented multi-role authentication and Firestore data architecture supporting patient, doctor, and admin workflows.
- Collaborated in a 4-member team; co-authored an **IEEE research paper** on system architecture and clinical use-cases.

### AlgoBot — Algorithmic Trading Automation Platform

2025-present

Production software

- Designed and deployed a production-grade trading automation system currently in active real-world use.
- Built automation logic, monitoring pipelines, and backend integrations operating under live business constraints.

### Personal Dashboard

2026

JavaScript [github.com/gitruparel/personal-dashboard](https://github.com/gitruparel/personal-dashboard)

- Built a personal productivity hub with task tracking, goal monitoring, and data visualisation for daily analytics.

### F1 Strategy Simulator

2026

JavaScript, Node.js [github.com/gitruparel/f1-strategy-simulator](https://github.com/gitruparel/f1-strategy-simulator)

- Engineered a physics-based tyre degradation model with exponential penalty curves for over-stinted compounds and dynamic weather parameters.
- Implemented a server-side API proxy to fetch live Ergast F1 telemetry data, bypassing CORS restrictions for real race data integration.

### ShatterBlocks

2024

C, SDL2, SDL\_mixer, SDL\_ttf [github.com/gitruparel/ShatterBlocks](https://github.com/gitruparel/ShatterBlocks)

- Built a fully functional brick-breaker game from scratch in C — no game engine — with collision detection, score persistence, and audio integration.
- Demonstrates low-level systems programming, game loop architecture, and real-time rendering using SDL2.

## RESEARCH

### MedSync: A Real-Time Healthcare Management System Using Cloud-Based Architecture

2025

IEEE | Submitted to ICCUBE Conference | Co-Author

## EXPERIENCE & LEADERSHIP

### Deputy PR Head — Green Club, FCRIT Sem 4, 2025

- Managed outreach and communications for a student council overseeing 150+ members across sustainability initiatives.
- Coordinated event promotion and cross-team collaboration for college-wide eco-awareness drives.

## HACKATHONS & COMPETITIONS

Smart India Hackathon (SIH) | EY Techathon | HackQuinox

## CERTIFICATIONS

### CS50P: Introduction to Programming with Python

2024

Harvard University | HarvardX / edX