

VRUSHABH HIRAP

+91 7499340612 | vrushabhhirap8@gmail.com | [linkedin.com/in/vrushabh-hirap](https://www.linkedin.com/in/vrushabh-hirap) | github.com/vrushabh-hirap | vrushabhhirap.vercel.app

SUMMARY

Computer Science undergraduate with hands-on experience across Android, full-stack web, and database-driven applications (SQL, MongoDB, Firebase). Seeking a Software Engineer Intern role to contribute to backend and persistence-layer development, with a strong foundation in data structures, OOP, and system design fundamentals.

EDUCATION

Pimpri Chinchwad College of Engineering (PCCOE)

Pune, India

B.Tech, Computer Science (Minor: AI & Machine Learning)

Aug 2025 – Jul 2028

Government Polytechnic Ambad

Diploma in Information Technology — 92.38%

Oct 2022 – Jun 2025

Relevant Coursework: Data Structures & OOP, Operating Systems, Computer Networks, Databases, Software Engineering, Mobile App Development

SKILLS

Languages: Java, C++, Python, C, Kotlin, SQL, PHP

Backend & Databases: Spring Boot, PostgreSQL, MySQL, MongoDB, Firebase, Supabase

Web Technologies: HTML, CSS, JavaScript, TypeScript, React

Tools & Platforms: Git & GitHub, Android Studio, IntelliJ, PyCharm, VS Code, Figma

WORK EXPERIENCE

Software Development Intern (OJT) - Student Scholarship Web Portal,

Dept. of CSE (AI & ML), PCCOE

Pune, India | Mar 2026 – Aug 2026

- Selected as 1 of 4 students institute-wide for a six-month, academic-credit-bearing On-the-Job Training project to design and build a Student Scholarship Web Portal for the college, integrating with the Maharashtra Government's MahaDBT platform to streamline scholarship application submission.
- Involved across the full project lifecycle — requirement analysis, system design, development, testing, deployment, and documentation — under the mentorship of the CSE (AI & ML) department.

Full Stack Development Intern - Mountreach Solutions Pvt. Ltd.

Amravati, India | Aug 2024 – Nov 2024

- Built "College Management" (My College App) end-to-end, handling both frontend UI and backend data flow across student, teacher, and admin modules.
- Designed and implemented normalized database schemas and CRUD workflows to support real-time academic record management across student, teacher, and admin modules.

Android Development Intern - Sumago Infotech Pvt. Ltd.

Nashik, India | Jan 2024 – Jul 2024

- Contributed to live Android projects across the full development lifecycle - from UI implementation to testing and deployment.
- Collaborated with senior developers to debug and optimize existing app features, gaining practical experience with production codebases.

UNIVERSITY PROJECTS

Cohort - Social Media Platform for PCCOE (React, Node.js, MongoDB)

- Building a campus community web app supporting discussions, announcements, and placement updates for the student body.
- Implementing role-based access control and real-time updates to improve engagement across student, faculty, and admin roles.

OrbitOne - Space Debris & Orbit Analytics Platform (React, NASA/USGS APIs, Data Visualization)

- Developed a data-driven web platform visualizing satellites and space debris in Low Earth Orbit using NASA and USGS datasets.
- Built collision-prediction analytics and a mission dashboard serving both enterprise (B2B) and consumer (B2C) use cases.
- Recognized at NASA International Space Apps Challenge 2025 as a Galactic Problem Solver.

QuickCart & CampusPro+ - Android Applications (Java, Firebase Firestore)

- Built two Android applications (e-commerce and campus management) using Firebase Firestore for real-time data sync across cart, attendance, and timetable modules.

AdaptLearn - Adaptive Learning Platform (React, Tailwind CSS)

- Built an AI-powered adaptive learning platform that personalizes learning paths based on user performance and engagement.
- Implemented a responsive SaaS frontend with dynamic dark/light mode and interactive, reusable UI components.

STRIX - IoT Occupancy & Energy Management System (ESP32, C++/Arduino, Hardware Sensors, 4-Channel Relay, ntfy.sh API)

- Designed and deployed an automated IoT energy management system using ESP32 to eliminate power wastage via multi-sensor fusion logic (PIR, LDR, Vibration).
- Implemented closed-loop automated AC relay power cutoffs during vacant periods, achieving a 100% test-case pass rate (26/26 checks) across campus trial deployments (Lab 6519 & Classroom 5211).
- Integrated real-time HTTP push notifications via ntfy.sh to report live energy consumption (Wh) and estimated carbon footprint (CO₂) metrics.

Crawl - HTML Parser & Web Crawling Engine (Python 3, Flask, HTML5/CSS3, PyPI)

- Engineered a zero-dependency, production-grade Python web crawler and HTML parsing engine from scratch with custom lexical tokenizer, stack-based DOM parser, and left-to-right CSS selector engine.
- Developed DOM cleaning and extraction modules supporting table parsing, interactive form scraping, whitespace normalization, and multi-format exporters (JSON, CSV, TXT).
- Built a neobrutalist browser dashboard UI (crawl webpage) and CLI tool (crawl search) with pluggable job aggregation adapters; published as open-source package on PyPI (crawl-any-website).

PUBLICATIONS

- "Paradox: Recursive Visual Entropy Key Derivation Engine (RVE-KDE) — Experimental Framework for Deterministic Image-Based Cryptographic Key Generation," Indian Journal of Computer Science and Technology (IndJCST), Vol. 5, Issue 2 (May–Aug 2026), pp. 768–804. ISSN: 2583-5300. Peer-reviewed, UGC-CARE listed.
- "MediRec: Enhancing Healthcare Accessibility Through Symptom-Based Recommendations," accepted at ICISML2026; forthcoming in AIP Conference Proceedings (Scopus indexed).

ACTIVITIES

Technical Head — IEEE Club (PCCOE Student Branch)

PCCOE, Pune

- Directing technical initiatives, organizing workshops and hackathons, and mentoring student project teams in software development and emerging technologies.

Technical Head — AIMS Club (AI & Machine Learning Student Association)

PCCOE, Pune

- Leading technical events, hands-on AI/ML bootcamps, and overseeing project development initiatives for the department.

Team Member — OWASP PCCOE Club

PCCOE, Pune | Sep 2025 – Mar 2026

- Participate in security workshops, hands-on labs, and vulnerability awareness sessions on web and mobile application security.

ACHIEVEMENTS & CERTIFICATIONS

- **NASA International Space Apps Challenge 2025** — Recognized as a Galactic Problem Solver for contributions to OrbitOne (Oct 2025).
- **TechFiesta 2026, International Hackathon** — Participant, Pune Institute of Computer Technology (PICT), in association with Agribid.
- **State Level Project Competition and Exhibition** — Runner-up, Government Polytechnic, Ambad (Mar 2025).
- **Certificate of Excellence** — DBMS: Fundamentals and Advanced Concepts, Scaler Topics (Apr 2026).
- **Certificate of Completion** — Java Language (6-month professional course), VJTech Academy.
- **Certificate of Completion** — Data Structures using C (6-month professional course), VJTech Academy.