Vaibhav Shiroorkar

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Engineering undergraduate focused on scalable backend systems, data engineering, and applied machine learning.

EDUCATION

K. J. Somaiya College of Engineering   Mumbai, IN
Bachelor of Technology in Electronics and Computer Engineering   *July. 2024 – May 2027*
  − CGPA: 9.0 / 10.0   (Direct Second-Year Admission after Diploma)

Vidyalankar Polytechnic   Mumbai, IN
Diploma in Electronics and Telecommunication Engineering   *Aug. 2021 – May 2024*
  − Percentage: 85%

EXPERIENCE & INTERNSHIPS

Intern − Technical Support & Systems   May 2023 − Jul. 2023
Philips Authorized Service Center   *Mumbai, IN*
  − Diagnosed hardware faults in critical medical imaging systems, contributing to high equipment uptime.
  − Executed calibration procedures and quality checks in compliance with industry safety standards.
  − Analyzed system failure logs with senior engineers to support preventive maintenance planning.
  − Maintained repair and compliance documentation, reducing audit retrieval time and operational delays.

HONORS & ACHIEVEMENTS

- **First Prize − Diploma Final Year Project**: Awarded top honors for developing the "Disease Prevention System".

- **Participant − Diploma Inter-College Hackathon**: Built a full-stack financial data solution under strict time constraints.

MAJOR PROJECTS

PaySentry (In Progress) | *FastAPI, PostgreSQL, Redis, XGBoost, LangChain*   Jan. 2026 − Present
  − Designing a real-time payment intelligence platform for high-concurrency transaction processing.
  − Architecting backend services using FastAPI with PostgreSQL and Redis for low-latency data access.
  − Researching and prototyping fraud detection pipelines using **XGBoost** and graph-based features (NetworkX) with a target inference latency under 100ms.
  − Planning compliance automation workflows using **RAG-based AI agents** for regulatory checks and risk analysis.

PCease | *React, Node.js, MongoDB, REST APIs*   Jul. 2024 − Dec. 2024
  − Developed a full-stack PC configuration platform with real-time component compatibility validation.
  − Designed a custom compatibility engine that reduced invalid user configurations by 40%.
  − Optimized backend queries and frontend rendering to maintain 200ms average page load times.

Disease Prevention System | *Python, FastAPI, Scikit-learn*   Aug. 2023 − Feb. 2024
  − Built a predictive analytics system to forecast disease trends using environmental and weather data.
  − Trained a **Random Forest** model using Scikit-learn to analyze correlations and generate predictions.
  − Developed a FastAPI-based backend to serve predictions to a responsive web interface.

TECHNICAL SKILLS

Languages: Python, SQL (PostgreSQL), JavaScript, HTML, CSS
Frameworks & Libraries: FastAPI, React, Node.js, Pandas, NumPy, Scikit-learn, XGBoost, LangChain
Tools & Platforms: Git, Docker, Redis, VS Code, PyCharm, Linux