Swarom Firagannavar

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PROFESSIONAL SUMMARY

Final-year Computer Science Engineering student with strong hands-on experience in machine learning, full-stack web development, and API-based systems. Actively developing a crop disease detection platform using deep learning, FastAPI, and web technologies. Skilled in Python, JavaScript, TensorFlow, React, and SQL, with a solid foundation in Data Structures and backend development. Seeking software engineering / machine learning internship/ opportunities to build scalable, real-world systems.

EDUCATION

MIT ADT University, Pune
B.Tech CSE (Pursuing) – 7.8 CGPA | 2026

The Lexicon International School, Pune
12 th – First class | 2022

The Lexicon International School, Pune
10 th – First class with distinction | 2020

PROJECTS

CROP DISEASE DETECTION
- Technologies used: HTML, CSS, JavaScript, Python, Python-TensorFlow, FastAPI
- Engineered deep learning model achieving 99.27% validation accuracy in classifying 22 crop diseases across 14,500+ labeled leaf images from
  6 crop types (Apple, Corn, Grape, Potato, Peach, Pepper)
- Implemented transfer learning with MobileNetV2 architecture (2.4M parameters,
   9.25MB model size) optimized for deployment on resource-constrained devices
- Reduced training time by 60% using data augmentation and early stopping,
   achieving convergence in 16 epochs with <3% validation loss
- Built FastAPI backend serving disease predictions with ~500ms inference time,
   integrating real-time weather data APIs for environmental context
- Designing multi-modal system combining CNN predictions with weather metrics
   to generate contextual treatment recommendations via LLM integration.
- Enhancing model transparency by integrating Grad-CAM segmentation to highlight infected regions directly on the user dashboard.

TERM-TRACK SYSTEM
- Technologies used: Built with HTML, CSS, JavaScript, MySQL
- Course Catalog Filters: Allows users to browse and filter courses by category and saves favorite courses using a like system.
- API Integration: Fetches course data from an external API, ensuring the content is always up-to-date and relevant.
- Co-authored an algorithm for the Term Track System, officially copyrighted with the team.

WEATHER MANAGEMENT SYSTEM USING NodeMCU ESP8266
- Technologies used: NodeMCU ESP8266 as the microcontroller, interfacing with sensors such as DHT11 (temperature & humidity), LDR (light intensity), Rain Sensor (rain detection), and BMP180 (pressure measurement).
- The system collects environmental data (temperature, humidity, pressure, light intensity, and rainfall) through various sensors and displays it on an LCD screen.
- Data displayed on an LCD and transmitted to the Blynk IoT platform for remote monitoring.

CAB BOOKING SYSTEM
- Technologies used: HTML5, CSS, JavaScript.
- Engineered a Dynamic Pricing Algorithm using JavaScript that adjusts fares based on simulated demand and distance, and secured user data via JWT Authentication.
- Implemented features such as Authentication, Dynamic Pricing Algorithm.

SKILLS

Programming: Python, Java, JavaScript

Web: HTML, CSS, React.js, FastAPI,

Machine Learning: TensorFlow, Keras, Transfer Learning

Databases: MySQL, MongoDB

Tools: Git, GitHub,Postman
Core CS: Data Structures, OOP, DBMS

CERTIFICATES

- Cisco Networking Basics
- HTML, CSS & JS for Web Developers (Coursera)
- Relational Database Design (Coursera)
- Fundamentals Of GIT(Coursera)
- AWS Academy Graduate - AWS Academy Cloud Foundations

LANGUAGES

- Hindi
- Marathi
- English
- Spanish- Beginner

HOBBIES

- Football
- Music