VishnuSagar Dilip

Software Engineer
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GitHub | **CodeChef** | **HackerRank** | **Linkedin**

Education

Nettur Technical Training Foundation Electronics City, Bengaluru, Karnataka
Mechatronics and Smart Factory Diploma July 2019 - March 2024
CGPA: 8.6

Christ University Kaniminki, Mysore road, Kengeri,Bengaluru, Karnataka
Computer Science Engineer with specialization in Artifical Intelligence and Mschine Learning Bachelors in Technology March 2024 - Current

Experience

RockForest Technologies | **Mechatronics Intern** Vaddarapalya, Near BMTC 378 bus stop, Bengaluru | 23/05/24 - Present

- Helped improve and streamline production by improving communication and reducing waste with the help of creation tools.
- Improved the production capacity with my help in managing the interns and reducing communication errors.

Rinex.AI | **Machine learning intern** Domlur, Bengaluru, Karnataka 560071 | July 2024 - August 2024

Description: Developed a machine learning model to predict weather conditions (temperature, humidity, rainfall) using real-time data from Google Cloud Weather API.
Tech Stack: Python, Scikit-Learn, XGBoost, LSTMs, Google Cloud API, Pandas, Matplotlib
Key Contributions:
Integrated Google Cloud Weather API to fetch real-time and historical weather data.
Preprocessed and analyzed datasets to extract key meteorological features.
Implemented Random Forest and LSTM models for weather forecasting.
Achieved 97.3% accuracy in predicting short-term weather changes.
Visualized data trends using Matplotlib and Seaborn for better interpretability.
Cancer Detection Using Deep Learning
Description: Built a deep learning model for cancer detection using medical imaging datasets, classifying malignant vs. benign tumors.
Tech Stack: Python, TensorFlow/Keras, OpenCV, CNNs, Pandas
Key Contributions:
Processed Breast Cancer Wisconsin Dataset and medical images using OpenCV.
Designed and trained a CNN model for image classification, achieving 80% accuracy.
Utilized data augmentation to handle imbalanced datasets and improve generalization.
Integrated the model into a Flask web app for real-time predictions.

Skills

Programming Languages:	Python, Java, C#, html, css, javascript, C++
Libraries/Frameworks:	Psycopg2, Svelte, Express JS, Node JS, TailwindCSS, Mongoose
Tools / Platforms:	GitHub, Git, VS Code, Unity 3D projects, IBM SPSS, Google Cloud, Amazon Web Services S3
Databases:	PostgresSQL, MongoDB, Oracle SQL, mySQL

Projects / Open-Source

Autonomous Maze Solving Robot *VNC,Python, Raspberry pi, Raspbian linux OS, Arduino, Arduino C++, Fusion 360*

Key Contributions & Leadership:
Team Leadership & Project Management:
Successfully guided a multi-disciplinary team, ensuring smooth collaboration and task delegation.
Maintained a failure-free execution by proactively troubleshooting potential issues.

Fostered an environment where team members could optimize their skills, leading to the best-performing team in group projects.
Technical Implementation:
Algorithm Development: Implemented BFS, DFS, and A algorithms* for efficient maze-solving.
Embedded Systems Integration:
Used Raspberry Pi for high-level processing and Arduino for real-time motor control.
Programmed in Python & Arduino C++ to handle sensor data and movement logic.
Sensor & Actuator Control:
Integrated ultrasonic sensors, IR sensors, and motor drivers for precise navigation.
Optimized the robots speed and turning mechanisms for improved performance.
Remote Monitoring & Control:
Configured VNC for remote access and debugging on Raspbian Linux OS.
Hardware Design & Prototyping:
Designed custom chassis & mounting structures in Fusion 360 for 3D printing & fabrication.

Robotic Arm using IOT *Arduino, Python, Arduino C++, MIT App maker*

- This project was done as a hobby work in which i managed to make a robotic arm which functioned as a pick and place machine .

Temperature and Humidity based Window shutter control *Arduino, DTH-11 Library, Arduino C++, Actuators, Discrete 5v power supply*

Sensor Integration: Utilized a DHT22 sensor to monitor real-time temperature & humidity, feeding data into a microcontroller.
Automated Control Mechanism: Programmed an Arduino (or ESP8266/ESP32) to control a servo motor that opens/closes window shutters dynamically based on environmental thresholds.
Intelligent Decision Making: Implemented logic to open shutters when temperature is high for ventilation and close them if humidity is too high to prevent moisture-related issues.
IoT Connectivity (Optional Upgrade):
Integrated with Blynk / MQTT / Firebase for remote monitoring & control via a mobile app.
Sent real-time alerts when conditions exceed set limits.
Energy Efficiency: Reduced dependency on HVAC systems by optimizing natural ventilation, contributing to sustainability & smart home automation.
Hardware & Software Development: Wrote efficient C++ code for the microcontroller, ensuring smooth operation and minimal power consumption.
Prototyping & Testing: Built and tested the system on a breadboard, then deployed it in a real-world setup for performance evaluation.

Luxmerce-Main | Link *Svelte, JavaScript, HTML, CSS*

Developed a dynamic admin dashboard using SvelteKit, enabling authenticated users (admin-only access) to manage product listings.
Implemented secure authentication & authorization, storing JWT tokens and verifying user roles.
Designed and deployed a RESTful API with Node.js & Express.js, handling CRUD operations for products in a MongoDB database.
Structured NoSQL data models in MongoDB to optimize querying and storage of products, reviews, and ratings.
Built custom error handling & validation to ensure proper data integrity, preventing invalid entries and bad requests.
Integrated localStorage for session management, ensuring users remain logged in securely.
Debugged and resolved 400 Bad Request issues by refining API request formatting and schema validation.
Enhanced frontend UI/UX with responsive components, form validation, and user feedback messages.

DBMS-Project | Link *HTML, Python, CSS*

Description: Designed a Flask-based API to manage a database of viruses and operating system vulnerabilities, using Aiven PostgreSQL for scalable storage.
Tech Stack: Python, Flask, PostgreSQL (Aiven), psycopg2, REST API

Key Contributions:
Developed a Flask API for adding, updating, retrieving, and deleting virus and OS vulnerability records.
Utilized Aiven for PostgreSQL to manage and store structured cybersecurity data.
Implemented efficient SQL queries with psycopg2 to ensure optimized database transactions.
Designed a RESTful API to interact with the database, allowing integration with front-end dashboards.

Certifications

- DataCentre Management Course by EXIN - **EXIN**
- Data Science Course - CISCO - **CISCO**
- Responsive Website Design - **NXTWave 4.0**
- IBM SkillsBuild AI Fundamentals - **Credly**

Honors & Awards

- Performing a Honors in datascience and big data in CHRIST CSAIML