Kavin Balaji S

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Bachelor of Technology
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Education

•Bachelor of Technology in Computer and Communication Engineering *2023-2027*

Amrita Vishwa Vidyapeetham University, Coimbatore CGPA: 7.07 (as of semester 4)

Experience

•IoT Engineer *July 2024 - Present*

Intel IoT Club, Amrita Vishwa Vidyapeetham University

- Collaborated with club members to brainstorm, design, and implement innovative IoT projects.
- Conducted hands-on workshops and technical sessions, introducing members to IoT concepts, hardware prototyping, and cloud integration.
- Contributed to project showcases, increasing club visibility and member engagement.

Technical Skills and Interests

Languages: C/Embedded C, Python, HTML+CSS
Softwares: Keil Uvision 4/5, Code Blocks, LogiSim, Arduino IDE, VScode, Jupyter
Cloud/Databases:AWS, Relational Database(mySql)
Relevent Coursework: Data Structures & Algorithms, Operating Systems, Machine Learning, Database Management System, Embedded Systems, IoT and Cloud Computing.
Areas of Interest: Web Design and Development, Cloud Computing, IoT.
Soft Skills: Problem Solving, Self-learning, Presentation, Adaptability

Projects

•Music Genre Classification

A machine learning project to automatically classify music tracks into genres based on audio features.
GitHub Link

- Developed a system to classify audio tracks into genres.
- Extracted key audio features (MFCCs, chroma, spectral contrast, etc.) using Python libraries like Librosa.
- Trained and evaluated multiple models, including traditional machine learning algorithms (SVM, Random Forest) and deep learning models (CNNs), to optimize classification accuracy.
- Achieved high accuracy in genre prediction, with detailed evaluation metrics and confusion matrices.
- Technology Used: Python, Librosa, scikit-learn, TensorFlow.

•Library Management System

An application made using Python for managing all facets of library operations.
GitHub Link

- Designed and implemented book cataloging, user registration, borrowing, returns with overdue fee calculation, and reservation workflows.
- Persisted data to Excel files and logged all transactions.
- Developed an intuitive multi-frame GUI for both administrator and user modes.
- Technology Used: Python, Tkinter, Pandas, OpenPyXL.

•Cricket Player Manager

A full-stack web application designed to help cricket clubs and teams efficiently manage their player database.
GitHub Link

- Add, view, edit, update and delete player profiles with search and filtering.
- Built a secure authentication system with role-based access for administrators, coaches, and players.
- Designed and implemented match recording and performance analytics.
- Technology Used: React.js, Node.js, Express.js, SQL, Sequelize.

•Smart Appliance Manager

An IoT-based home automation system to automatically control and monitor appliances in real time.
GitHub Link

- Built with ESP32 microcontroller for automatic temperature and ambient light based appliance control and monitoring.

– Implemented MQTT protocol communication with Node-RED and Blynk dashboards for remote monitoring and real-time data visualization.
– Technology Used: C++, MQTT, Node-RED, Blynk.