Aditya Varma

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EDUCATION

Amrita Vishwa Vidyapeetham **Aug 2023 – Aug 2027**
Computer and Communication Engineering - ***CGPA* - *6.91*** *Coimbatore, Tamil Nadu*

Devagiri CMI Public School **May 2023**
Senior School Certificate Examination - Class XII - ***Percentage* - *85.2%*** *Kozhikode, Kerala*

Devagiri CMI Public School **May 2021**
Secondary School Examination - Class X - ***Percentage* - *94.2%*** *Kozhikode, Kerala*

COURSEWORK / SKILLS

- Data Structures & Algorithms
- Operating Systems
- Machine Learning
- Database Management System (DBMS)
- Object-Oriented Programming (OOP)
- Internet of Things (IoT)
- Data Science
- Computer Systems and Architecture
- Digital Electronics

TECHNICAL SKILLS

Languages: Python, C/C++, HTML, CSS, JavaScript
Technologies/Frameworks: Tkinter, GitHub, MySQL, Google Maps API, Git
Libraries: pandas, NumPy, Matplotlib, OS, scikit-learn, TensorFlow

PROJECTS

Personal Portfolio | HTML, CSS, JavaScript **Jan 2025**

- Developed a fully responsive and interactive personal portfolio website to showcase my projects, skills, and professional journey.
  - Designed a clean and intuitive UI/UX for seamless navigation and accessibility across devices.
  - Implemented modern web technologies to create a visually appealing and functional interface.
  - Integrated sections for project showcases, technical skills, and contact information, making it a central hub for professional networking.
  - Focused on performance optimization, responsiveness, and user engagement to enhance the browsing experience.
- Live site here

Inventory management | Python, MySQL, Tkinter **Dec 2024**

- Developed a comprehensive Inventory Management System to streamline business operations by efficiently managing employees, suppliers, products, and sales.
  - Designed an intuitive user interface for tracking inventory, reducing manual errors, and improving operational efficiency.
  - Implemented a structured database system for storing and retrieving inventory details, supplier information, and employee records.

    - Developed interactive modules for adding, updating, searching, and deleting records related to products, suppliers, and employees.
    - Integrated real-time inventory tracking to ensure stock availability and optimize resource allocation.

File Compressor | Python **Aug 2024**

- Developed a lossless file compression and decompression system using Huffman Coding to optimize storage and data transfer efficiency.
    - Implemented Huffman Coding to generate optimal prefix-free encodings, reducing file size while preserving data integrity.
    - Designed a min-heap-based Huffman Tree construction for efficient encoding and decoding of text files.
    - Developed interactive modules for file selection, compression, and decompression with automated binary conversion.
    - Applied data structures, including heaps, trees, and bit manipulation, to enhance system performance.

Driver Fatigue Detection | Python, TensorFlow, Scikit-learn, **Jan 2025**

- Developed a machine learning-based fatigue detection system utilizing EEG signals to identify early signs of driver drowsiness and enhance road safety.
    - Preprocessed EEG signals by applying noise filtering, feature extraction, and dimensionality reduction techniques.
    - Implemented machine learning models such as SVM, Random Forest, and k-NN for real-time classification of fatigue states.
    - Optimized feature selection using Principal Component Analysis (PCA) to improve model accuracy and efficiency.
    - Evaluated model performance using precision, recall, F1-score, and ROC curve analysis to ensure reliability.
    - Designed a scalable system capable of real-time fatigue monitoring, providing early warnings to prevent accidents.

INTERNSHIP

Wizycom Nurture **Jun 2023 – Aug 2023**
Intern *Kozhikode, Kerala*

- Researched and developed high-quality educational and tech content to enhance audience engagement.
- Authored blogs, articles, and social media posts, improving brand visibility and digital reach.
- Collaborated with the team to refine content strategies for clarity, accuracy, and industry relevance.
- Optimized content for SEO, increasing visibility and audience engagement.
- Gained hands-on experience in content marketing, research-based writing, and digital communication strategies.

EXTRACURRICULAR

Intel IoT Club **Jun 2024 – Present**
IoT Engineer *Amrita Vishwa Vidyapeetham*

- Contributed to the Intel IoT Club for over two years, working on advanced IoT projects and mentoring teams.
- Developed IoT solutions using Arduino, Raspberry Pi, and ESP32, integrating real-time data processing and cloud communication.
- Simulated IoT systems using Wokwi for testing and validation before deployment.
- Mentored a team that successfully presented an Automated Door Lock System at Anokha Tech Fest.
- Conducted knowledge-sharing sessions on embedded systems, IoT protocols, and microcontroller programming.