J V Ayyappan

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Professional Summary

Frontend developer with practical knowledge in building responsive and user-friendly web applications using HTML, CSS, JavaScript, AngularJS, and Tailwind CSS. Delivered to real-world projects, including an AI-powered Q&A system for universities and a blockchain-based DBT platform. Skilled in automation and AI tools such as n8n, MCP Servers, AI Agents, Lang Chain and Lovable. Eager to contribute as a Frontend Developer role to apply my skills in creating modern, fast, and accessible web solutions as part of a collaborative team.

Technical Skills

Languages: HTML, CSS, JavaScript, Java

Frameworks and Libraries: Tailwind CSS, Bootstrap, AngularJS(Basic Knowledge)

AI Tools and Automation: Generative AI, MCP Servers, LangChain, AI Agents, RAG Application in n8n, Lovable

Tools and Platforms: Git, Docker, Jenkins, FastAPI.

Experience

Software Development Instructor Trainee, April 2025 – Present
NxtWave Disruptive Technologies Private Limited, Hyderabad

1. Built responsive user interfaces using HTML, CSS, JavaScript, and Tailwind CSS based on structured learning content.
2. Assisted students in understanding frontend concepts through real-time examples and guided project work.
3. Contributed to Gen AI hackathons, building applications with n8n, Eleven Labs, and Lovable; built automation tools using LangChain, AI Agents, and RAG-based workflows.
4. Guided 10+ students per batch by resolving code issues, enhancing layouts, and encouraging best coding practices.

Projects

University Syllabus Question Answering Assistant **UniversitySyllabusQA**

Description: A question-answering assistant for university syllabus files using LangChain and RAG. Combines Cohere embeddings with Qdrant for semantic search and supports multilingual queries. Interface created with Streamlit and FastAPI.

Tools Used: Lang chain, Cohere Embeddings, Qdrant Vector Storage, Streamlit.

Outcome: Achieved 90%+ answer relevance on academic queries, validated through real-user testing in university settings.

Fake News Detection on E-News **FakeNewsDetection**

Description: A machine learning model to classify online news as real or fake using TF-IDF and Passive Aggressive Classifier. Compared performance with Logistic Regression and SVM for accuracy and precision.

Tools Used: Languages - Python, Tools - Jupyter Notebook, Libraries - Pandas, NumPy, Tf-IDF Vectorizer, Passive Aggressive Classifier, Scikit-learn.

Outcome: Improved accuracy over Logistic Regression and SVM models, Lowered classification errors by 35%

Blockchain - Based Bank Record Storage with Direct Benefit Transfer **BankStorageSystem**

Description: A secure banking record system using blockchain to store transactions in a decentralized network.

Used SHA-256 to protect data and enabled Direct Benefit Transfer (DBT) for fast fund distribution during emergencies without using crypto tokens.

Tools Used: Front End - Core Java, J2EE (Java Servlets, Java Server Pages), Back-End - MYSQL 5.5, Application Server Integration - Apache Tomcat.

Outcome: Improved transaction security and reduced fraud risk by removing single points of failure. It could be quick and transparent delivery of government relief funds directly to verified users.

Academic Research Paper Generator **AcademicPaper**

Description: An AI-based tool that creates academic-style research papers from a given topic using Open AI, Cohere, and Gemini APIs. Allows users to input keywords and generate structured content with sections like abstract, introduction, and conclusion.

Tools Used: Languages, APIs - Python, SQLite, Open AI GPT, Gemini Pro, Cohere, Serper API, AI Automation - Lang Chain-style agent framework using YAML-based config (agents.yaml, tasks.yaml), Custom tools for paper retrieval, search, and generation orchestration, Render for cloud deployment, Git for version control

Outcome: Simplified content creation for students and researchers by generating draft research papers quickly, saving time and improving writing flow.

Image Steganography Using Python

Description: A steganography-based desktop tool that hides and extracts secret text from images using LSB (Least Significant Bit) method. The application provides encoding and decoding modules with user-friendly options for selecting cover and stego images.

Tools Used: Languages - Python, Tools - Jupyter Notebook or Visual Studio Code, Libraries - OpenCV, PIL (Pillow), or Scikit- Image, Stegano, Cryptography libraries for encryption, Algorithm - Least Significant Bit (LSB) or DCT (Discrete Cosine Transform).

Outcome: Data transmission can be secured by embedding messages into image files without altering image quality. It makes fast encryption/decryption with reduced detection risk, ensuring covert communication.

Certificate Verification using Blockchain **CertificateVerification**

Description: A certificate verification platform using blockchain to store and validate academic credentials. Smart contracts ensure tamper-proof issuance and verification of digital certificates.

Tools Used: Smart Contracts - Solidity , Blockchain - Ethereum Blockchain, Frontend - HTML, CSS, Javascript, Backend - Node.js, Database - IPFS, Ethereum Development Framework - Truffle.

Outcome: Minimized certificate fraud by securing, real-time verification of records. Provided institutions with a decentralized way to manage and authenticate academic data.

Education

Vellore Institute of Technology, June 2019 – August 2024

Master of Technology Integrated Computer Science and Engineering

- CGPA: 7.85

Sunbeam Matriculation Higher Secondary School, June 2018 – April 2019

12th (State Board) - Computer Science - Percentage: 72.17

Sunbeam CBSE School, June 2016 – April 2017

10th (CBSE) - CGPA: 9.0

Certifications

- Single Page Web Applications with AngularJS - **Coursera**
- AZ-900: Microsoft Azure Fundamentals - **Udemy**
- Microsoft Azure AI Essentials Professional Certificate by Microsoft and LinkedIn - **Microsoft and LinkedIn**
- Career Essentials in GitHub Professional Certificate - **Github and LinkedIn**