Aadhithiyan K S

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PUBLICATIONS

Fake Product Identification Using Blockchain – **Presented at IIT Delhi, ICCCNT 2023.**

Web-Based Patient Health Management System with Doctor Recommendations and Medicine Alternatives Using Machine Learning – **Published at ICSSEECC 2024.**

EDUCATION

PSG Institute of Technology and Applied Research   Coimbatore, India
*Bachelor of Engineering, Computer Science, **GPA: 8.62***   *2020 – 2024*

EXPERIENCE

Introspect Labs   **JUL 2025 – DEC 2025**
Full Stack Intern   *Remote*
  − Built a comprehensive mental health platform backend with features including professional-client session booking, AI-powered therapist recommendations, real-time video consultations via LiveKit, and automated persona/avatar creation through Introspect Labs API integration.
  − Developed microservices architecture with Celery workers, Redis caching, Qdrant vector search, and ClickHouse analytics pipeline.
  − Implemented secure authentication with OTP verification, Zitadel SSO, JWT tokens, and Stripe payment processing.

DoTE, Tamil Nadu Engineering Admissions (TNEA)   **MAR 2023 – AUG 2023**
Algorithm Development Intern   *Tamil Nadu, India*
  − Designed optimized **seat allocation algorithms** for approximately **200,000 seats** in TNEA counseling
  − Pioneered the transition from manual to automated seat allocation based on Categories and Reservation
  − Assisted in implementing choice-based seat allocation algorithms leveraging candidate ranking for seat allocation during TNEA counseling

Business Web Solution   **OCT 2022 – DEC 2022**
Web Developer Intern   *Remote*
  − Designed client-side and server-side architecture with **HTML, CSS, JavaScript, React JS, Angular, Bootstrap**
  − Built the front end of applications through appealing visual design.
  − Designed, developed, and maintained platforms with databases or servers.

PROJECTS

Patient Health Management System with AI/ML   **JAN 2024 - MAY 2024**
Technologies: Flask, MySQL, HTML, CSS, JavaScript
  − Developed a comprehensive web application for patient registration and appointment booking with AI-driven doctor recommendations.
  − Implemented ML algorithms for alternative medicine suggestions and chatbot for symptom-disease prediction.
  − Integrated a medical record management system with email notifications for appointment reminders.
  − https://github.com/Aadthiyan/HealthCare-Management-System

Identifying Counterfeit Products Using Blockchain   **JULY 2023 - DEC 2023**
Technologies: Solidity, MongoDB, Flutter, HTML, CSS, JavaScript
  − Created a blockchain-based web and mobile application to verify product authenticity.
  − Implemented QR code scanning to validate products using a decentralized ledger.
  − Overcame challenges of transaction cost optimization and frontend integration, delivering a secure and transparent system that improved trust and traceability.
  − https://github.com/Aadthiyan/Blockchain-Counterfeit-Projects

Hackathon

Agentic AI Procurement System using IBM watsonx Orchestrate

Technologies: IBM watsonx Orchestrate, IBM Cloud, Python/Flask, Docker | Certificate **DEMO**

- Built a production-ready agentic AI system with five autonomous agents automating vendor onboarding, requisitions, compliance checks, approval flows, and stakeholder communications.
- Developed a Python and Flask backend with a Streamlit frontend; integrated IBM watsonx (Orchestrate and Granite 13B) and IBM Cloud services including Secrets Manager and Cloudant.
- Implemented true autonomous decision-making with workflow orchestration, formal digital skills, and complete audit trails to meet enterprise compliance and security requirements.
- GitHub: Smart Procurement Co-Pilot

Nostromo Guardian - Blockchain Risk Scoring Protocol

Technologies: Node js, PostgreSQL, Qubic C++ Smart Contracts,React Query | Certificate **DEMO**

- Built **Nostromo Guardian**, a comprehensive risk-scoring protocol for the Qubic ecosystem that evaluates crypto projects across seven dimensions—including tokenomics, team quality, and security—to generate automated trust scores for investors and launchpads.
- Developed a full-stack platform with a Next.js/TypeScript frontend, Node.js/Express backend, and deployed custom C++ smart contracts on the Qubic testnet for immutable.
- Implemented a real-time **Builder Sandbox** simulator enabling founders to model vesting, team allocations, and tokenomics changes, which reflects score impact with integrated red-flag for high-risk configurations.
- GitHub: Nostromo Guardian

WildGaurd-Edge: Real-Time Wildfire Detection AI

Technologies: Edge Impulse, TensorFlow, CNN, Python, Node.js , MFCC audio processing | Certificate **DEMO**

- Developed an edge-based wildfire detection system combining CNN-driven audio analysis with multi-sensor inputs (temperature, humidity, pressure), achieving 98.92% accuracy and 99.76% recall for early fire detection.
- Optimized and deployed an INT8-quantized TensorFlow Lite model with 32ms inference latency and a 1.1MB footprint, enabling real-time inference on embedded platforms.
- Built an end-to-end edge ML pipeline using Edge Impulse for MFCC-based DSP feature extraction, model training, and WebAssembly deployment,with a Flask and Node.js.
- GitHub: WildGaurd Edge

CipherDocs: Encrypted Multi-Tenant SaaS Platform

Technologies:React, FastAPI , PostgreSQL, vector database (CyborgDB). | Certificate **DEMO**

- Designed and built a production-ready, multi-tenant SaaS platform for AI-powered semantic document search, using encrypted embeddings to prevent cross-tenant data access.
- Built a Dockerized FastAPI–React microservices platform with PostgreSQL, enabling horizontal scaling and enterprise security through JWT, RBAC, OTP, and tenant-level cryptographic isolation.
- Enabled encryption-in-use for vector similarity search, allowing secure document indexing and recommendations without exposing plaintext embeddings.
- GitHub: CipherDocs

RetailGen: AI-Powered Creative Generation & Compliance Platform

Technologies: Next.js, React, TypeScript, Tailwind CSS, Fabric.js, Convex , Clerk, Cloudinary. | Certificate **DEMO**

- Built a production-ready AI-powered creative platform that automates retail marketing asset generation using GPT-4, Stable Diffusion, and Google Vision APIs, reducing production time from weeks to under 5 minutes with 95%+ compliance accuracy.
- Engineered an intelligent compliance engine leveraging computer vision and OCR to validate designs against 15 brand guidelines, delivering real-time AI recommendations, approval workflows, and audit trails to eliminate manual review bottlenecks.
- Implemented a one-click multi-platform export system supporting 9+ formats with adaptive resizing and layout recomposition, packaging campaign-ready assets into organized ZIPs for seamless cross-channel deployment.
- GitHub: RetailGen

Technical Skills

Programming Languages: C++, Java, JavaScript, Python
Frameworks and Tools: Flask, Solidity, CNN/RNN, Flutter, MongoDB, MySQL, JavaScript, Git,Angular JS, React js
Other Skills: Distributed Systems, Blockchain Development, CI/CD, Deep Learning, Cloud Computing