ASHWIN V

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EDUCATION

B. Tech, Artificial Intelligence and Data Science, Shiv Nadar University — Expected 2027
CGPA : 9.11/10
Implemented Van Emde Boas Tree (fast integer set ops in O(log log U)) in Python — GitHub

Bachelor of Science, Indian Institute of Technology, Madras — Expected 2027
CGPA : 8.2/10
AutoLysis – CLI tool for data storytelling, built for IITM TDS course — GitHub

SKILLS

Languages	Python, SQL, C, Java, JavaScript, TypeScript
Frameworks and Libraries	FastAPI, Django, React.js, Flutter, SQLAlchemy
Tools	Docker, Postman, Git, Alembic, Power BI
Databases	MySQL, PostgreSQL, SQLite, MongoDB
Core Skills	SSH, API Development and Integration, Data Visualization, Statistical Analysis

PROJECTS

Automated Question Paper Generator: — Website
Tech Stack: Python, FastAPI, LangChain, FAISS, Vercel, Render, Groq

- Built a fully-deployed AI system that generates customizable question papers (MCQs, short/long answer) and answer keys from uploaded PDFs or textbook chapters.
- Designed a prompt-chained backend using LangChain to extract context, generate questions with marking schemes, and format output into downloadable documents.
- Developed a modern, responsive frontend (deployed on Vercel) integrated via REST API with backend (on Render) and kept online using GitHub Actions pinging.
- Supported full document uploads (PDF), role-based input control, and customizable question types/marks to match real-world educator needs.

Spam Detection Chrome Extension: — GitHub
Tech Stack: Python, Flask, JavaScript, Chrome APIs, Render

- Created a Chrome extension and backend system for real-time SMS spam detection with 98.44% accuracy, trained on 5,500+ labeled messages.
- Engineered an NLP pipeline using NLTK + TF-IDF and trained a Random Forest model to classify messages with near state-of-the-art precision.
- Deployed a REST API on Render and integrated it with the extension frontend using secure async requests (CORS-handled).

Facial Recognition Attendance System: — GitHub
Tech Stack: Python, FastAPI, PostgreSQL, FaceNet, MTCNN, Flutter

- Engineered a facial recognition attendance backend supporting 500+ users and 1,000+ attendance records with mobile-first integration.
- Used MTCNN for detection and FaceNet to extract 512-d embeddings achieving 99.6% accuracy (LFW benchmark); stored embeddings in PostgreSQL with vector search and cosine similarity.

- Built 15+ production-grade REST APIs for onboarding, embedding registration, verification, and admin-level operations.
- Enabled fully offline attendance check-in for 100+ mobile devices with a robust sync protocol to central DB post-network reconnection.
- Integrated with a Flutter-based app for real-time camera capture, identity verification, and administrative monitoring.

EXPERIENCE

Backend Developer Intern Jul 2025 – Present
Sudha Gopalakrishnan Brain Centre, IIT Madras *Chennai, TN*

- Resolved 10+ critical 404/500 errors across a 7-service Django microservices architecture by tracing and fixing misconfigured URLs, views, and serializers.
- Designed and integrated 6+ new REST API endpoints, refactoring legacy logic to support upcoming features while ensuring backward compatibility.
- Reverse-engineered deprecated `views.py` logic and streamlined Docker-managed routing, reducing endpoint response failures by 40%.
- Collaborated with frontend team to ensure UI-API alignment, improving usability for lab researchers and multi-role workflows.
- Streamlined local debugging using Docker, Postman, and SSH, reducing average issue resolution time by 30%.

HACKATHONS

Smart India Hackathon 2023 – Team Lead Finalist (Top 30/100+ Teams)
Shiv Nadar University, Campus Level

- Led a 6-member team to design an IoT-powered solar smart street light system for energy-efficient public infrastructure.
- Built simulations and prototype architecture; shortlisted among top 30 out of 100+ teams for final campus presentation.

PEC Hacks 2024 – Offline AI Translator Glasses Top 12 Finalist in Track
Panimalar Engineering College

- Developed a wearable edge device to translate printed and spoken text offline, integrating OCR and on-device NLP inference.
- Engineered a lightweight pipeline for real-time multilingual translation, optimized for microcontroller deployment.

CERTIFICATIONS

SQL (Intermediate) [HackerRank] **DSA (Intermediate)** [HackerRank]
Dynamic Programming Workshop [IIT Madras]

EXTRA-CURRICULAR ACTIVITIES

- **National-Level Tennis Player** – Competed at the national level; secured multiple victories in state-level tournaments, demonstrating discipline, strategy, and resilience under pressure.
- **FIDE-Rated Chess Competitor** – Participated in rated tournaments against high-ranking players; won several competitive events, honing critical thinking and decision-making skills.

LEADERSHIP

- **Student Council Member & House Captain (Orange House)** – Led the team to Overall Championship victory by driving planning, fostering collaboration, and resolving conflicts. Played an active role in organizing key school events and initiatives.