MEVIN JOSE | mjenius1357@gmail.com | +91 9902932228 |
Portfolio | GitHub | LinkedIn

SUMMARY

AI/ML undergraduate building production ML systems across 30K+ SKU forecasting, real-time CV (<100ms), and reinforcement learning optimization, with strong focus on evaluation, monitoring, and scalable API-driven deployment.

EDUCATION

PES University — B.Tech : Computer Science (Artificial Intelligence Machine Learning) | Aug 2023 – May 2027

EXPERIENCE

Web Development Intern — Superhhero Learning (*EdTech Startup*) | Jul–Sep 2025

- Built and **deployed 8+ Next.js** production pages on **MongoDB** supporting **100+ users** with responsive workflows
- Optimized **Mongoose schemas** and integrated **Cloudinary + Swiper**, reducing iteration time by **25%** and improving load speed by **10%** through asset compression and query tuning

Tech: React/Next.js, Node.js, Express, MongoDB, Tailwind CSS, Cloudinary, Swiper, Vercel

PROJECTS

Demand Forecasting ML System (*End-to-End ML Pipeline)*

- Built and deployed a hybrid ML + statistical forecasting system for **30K+ SKU-level time series** with time-based cross-validation and baseline comparison (Moving Average vs. LightGBM).
- Reduced MAE by **~25%** via automated drift detection, model registry, and production monitoring.

Tech: Python, LightGBM, FastAPI, Pandas, NumPy, SciPy, SQLite, Parquet

AEGIS — Tamper-Resistant Surveillance System *(Top-10 Kodikon Hackathon)*

- Built a **real-time CV** pipeline using optical flow + heuristic anomaly detection to identify blur, glare, blackout, and replay attacks in CCTV streams.
- Achieved **<2%** false positives with **<100ms** detection latency on live CCTV streams, integrating cryptographic **HMAC** watermark validation to prevent replay and feed-tampering attacks.

Tech: Python, OpenCV, Flask, Socket.IO, ffmpeg, SQLite

Adaptive Traffic-Signal Control with Explainable AI (PPO + SUMO)

- Engineered a PPO RL agent for emergency vehicle prioritization that cut travel time by **10.6%**, utilizing **SHAP** to interpret the **43D** state space and validate feature importance for safety-critical decisions.
- Architected a **Reward Decomposition framework** to verify the agent autonomously **prioritizes emergency vehicle clearance** over general traffic flow during critical events.

Tech: Python, Stable-Baselines3, SUMO, SHAP, Matplotlib, Pandas, NumPy

Football Recruitment & Scouting Decision Support System (API-Driven ML Platform)

- Built an end-to-end recruitment engine for **3,364 players** using **K-Means** clustering, weighted cosine similarity, and Random Forest valuation (R-Squared ~0.82) with **<100ms** API latency.
- Integrated **Ollama (Llama 3.2)** to generate **automated scouting narratives**, alongside league-aware imputation, **SHAP explainability**, and **Dockerized CI/CD deployment.**

Tech: Python, FastAPI, Ollama (Llama 3), Scikit-learn, SHAP, Pandas, SQLite, Streamlit, Docker, GitHub Actions

KEY SKILLS

- **Languages: Python, JavaScript/TypeScript, SQL, Java, C, R**
- **Frameworks: FastAPI, Flask, React, Node.js, Express, REST APIs, WebSockets**
- **ML: LightGBM, Scikit-learn, PyTorch, OpenCV, SHAP, Stable-Baselines3, NumPy, Pandas**
- **Databases: PostgreSQL, MongoDB, SQLite, Parquet, MySQL**
- **DevOps: Docker, GitHub Actions, CI/CD, Vercel, Linux**

CERTIFICATIONS

Google Data Analytics • Meta GenAI • Microsoft Computer Vision • Kaggle ML & DL