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<https://github.com/MJenius> | <https://mjenius.github.io/Portfolio>

SUMMARY

AI/ML and Software Engineering student at PES University with experience building and deploying ML systems and scalable software solutions. Skilled in Python, FastAPI, React, and MLOps workflows focused on production-ready, high-performance applications.

EDUCATION

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

EXPERIENCE

Web Development Intern — Superhhero Learning | Jul–Sep 2025

Kerala-based EdTech startup making Mathematics simple and accessible through digital-first learning solutions.

- Developed and deployed a MERN-based landing platform with ~100 active monthly users.
- Optimized API workflows, reducing development time by 25%.
- Enhanced backend caching to improve load times by 10%.

Tech: React, Node.js, Express, MongoDB, REST APIs, Vercel

PROJECTS

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

End-to-end retail demand forecasting system with hybrid ML modeling, monitoring, and auto-retraining.

- Deployed hybrid ML + statistical forecasting for 30k+ SKU-store time series (↓25% MAE).
- Implemented **drift detection** & model versioning for production-safe retraining.

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

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

Real-time CV platform protecting CCTV feeds using HMAC-SHA256 watermarks, multi-sensor tamper detection (blur, glare, shake, blackout), and event logging.

- Achieved <2% false positives and <100ms detection latency across live camera streams.
- Implemented **glare rescue (CLAHE)** and optical-flow reposition detection for robustness.

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

Adaptive Traffic-Signal Control (PPO + SUMO)

RL system optimizing emergency routing using **PPO**, trained on a large Bangalore traffic dataset.

- Reduced emergency travel time **10.6%**; trucks **4.2%**, cars **3.4%**, bikes **1.2%**.
- Automated training/evaluation pipelines using SUMO + PPO.

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

DocParse AI — Intelligent PDF Extraction Platform

Full-stack multi-model PDF extraction platform (Surya, Docling, MinerU) with PyMuPDF fallback.

- Reached **99% extraction accuracy** and **35% faster** processing with optimized pipelines.
- Automated deployment using Modal and Vercel CI/CD workflows.

Tech: FastAPI, Next.js, PyMuPDF, Modal, Vercel

KEY SKILLS

- **Languages:** Python, JavaScript/TypeScript, SQL, Java, C, R
- **Frameworks & Libraries:** FastAPI, Flask, React, Node.js, Express, Next.js, PyTorch, TensorFlow, Scikit-Learn, OpenCV, Pandas, NumPy
- **Software Engineering:** RESTful APIs, Microservices, System Design, Version Control (Git/GitHub), Docker, Testing (PyTest, Unit & Integration), CI/CD (GitHub Actions, Vercel, Modal), Agile, Jira
- **AI/ML & Data Science:** Machine Learning, Deep Learning, Computer Vision, NLP, Generative AI, Reinforcement Learning, MLOps, Model Deployment, Model Monitoring & Evaluation, Data Pipeline Automation
- **Cloud & Databases:** PostgreSQL, MongoDB, SQLite, Tableau, TensorBoard

CERTIFICATIONS

[Google Data Analytics](#) • [IBM Generative AI](#) • [Meta GenAI](#) • [Microsoft Computer Vision](#) • [Kaggle ML & DL](#)