Gabriel James

AI & Machine Learning Engineer | B.Tech. CSE '28 | Certified in ML, Python, Cloud (Stanford, IBM, AWS)

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PROFESSIONAL EXPERIENCE

AI Project Lead – Team Arete (Hackathon Research Team)
Government Engineering College Thrissur
04/2025 – Present

- Led a **multidisciplinary AI research team** building *Stampede Predictor* (CV) and *ATHENIS* (Legal NLP).
- Mentored peers in **ML modeling, prompt engineering, and system design**.
- Achieved **Top 6 finish at HackOdisha 5.0** and **Top 15 at HackHazards '25** for innovative AI solutions.

AI & Machine Learning Engineer – Independent / Open Source Developer
2024 – Present

- Built and fine-tuned **ML pipelines** for **NLP, Computer Vision, and Predictive Analytics** using **TensorFlow, scikit-learn, and PyTorch**.
- Applied **LLMs (Gemini, OpenAI, Claude)** to **AI tutoring, summarization, and reasoning-based automation.**
- Engineered **data processing frameworks** in **Python (pandas, NumPy)** to optimize model training and evaluation.

Student Developer
IEEE Computer Society, Government Engineering College Thrissur Chapter
12/2024 – Present | Thrissur, India

- **Organized and delivered workshops** on **machine learning, Git, and version control**.
- **Assisted peers** in developing **ML projects** on predictive modeling and data-driven applications.
- **Supported AI initiatives** fostering a collaborative learning culture in emerging technologies.

TECHNICAL SKILLS

Languages & Tools
Python, Java, C, TypeScript, SQL, Flask, React, Next.js, Git, Docker

AI/ML & Data Science
TensorFlow, PyTorch, NumPy, Pandas, scikit-learn, OpenCV, NLP, YOLOv8, PCA, Predictive Modeling

Databases & Cloud
PostgreSQL, SQLite, AWS, Supabase, CI/CD

EDUCATION

Bachelor of Technology in Computer Science and Engineering
Government Engineering College, Thrissur
2024 – 2028
CGPA: 9.78/10

Higher Secondary Certificate
Carmel Higher Secondary School, Chalakudy
2023
Grade: 99.4%

ACHIEVEMENTS & LEADERSHIP

Top 6 Finalist – HackOdisha 5.0 (500K+ participants nationwide)

Top 15 Finalist – Hack Hazards '25, Fluvio Track (17K+ participants, 25+ countries)

Academic Excellence: 9.78/10 CGPA · 99.4% HSC · 97% ICSE · AIR 688 in KEAM (State Engineering Entrance Exam)

IEEE Student Member – Computer Society, GEC Thrissur (2024–Present)

20+ Industry Certifications – Stanford, IBM, AWS, Google, Yale, Vanderbilt

PROJECTS

XENIA - AI-Powered Study Planner
Full-Stack AI Learning Platform | Gemini 2.5 Flash · Flask · Next.js · Python

- Built a **full-stack intelligent study planner** using **Gemini 2.5 Flash** for topic extraction, prerequisite mapping, and adaptive scheduling.
- Engineered a **4-phase AI pipeline** (preprocessing → AI analysis → topic extraction → learning path generation).
- Designed algorithms for **difficulty estimation**, **time prediction**, and **knowledge gap detection**, improving study efficiency by **30%**.
- Integrated OCR and NLP modules for **AI tutoring**, generating step-by-step academic explanations.

Stampede Predictor – Real-Time Crowd Safety System
Computer Vision & Streaming AI | YOLOv8 · OpenCV · Python · Fluvio

- Developed a **real-time crowd analytics system** detecting congestion using **YOLOv8** object detection and density heatmaps.
- Designed a **risk-scoring algorithm** combining spatio-temporal grid analysis and motion clustering.
- Integrated **Fluvio event streaming** for frame-level inference and live visualization.
- Achieved **90%+ detection accuracy**, ranking **Top 15 of 17,000+** in *HackHazards '25*.

ATHENIS – Legal Document Simplifier
AI & NLP System | Python · Flask · Transformers · Embeddings

- Created an **AI-driven NLP engine** to simplify complex legal text using **transformer embeddings** and contextual summarization.
- Built clause-level **risk classification** and **semantic anomaly detection** modules for better interpretability.
- Implemented **real-time inference pipeline** with adaptive token generation for large documents.
- Ranked **Top 6 / 500K+** in *HackOdisha 5.0* for LegalTech innovation.

Selected Projects:

- **AURA** – FinTech voice-enabled payments prototype (*Flask, NLP, PostgreSQL*)
- **Credit Risk Analyzer** – Loan default prediction using *scikit-learn* and *SQLite*
- **Trading Strategy (PCA)** – Dimensionality reduction & backtesting strategy using *TensorFlow*

INTERESTS

AI/ML Research & Deep Learning | Financial Technology (FinTech) | Quantitative Modeling & Analysis | Algorithmic Trading Systems | Computer Vision & Intelligent Applications | Cloud Architecture & System Optimization | Generative AI & LLMs | Open-Source Development

CERTIFICATIONS

Machine Learning Specialization (Stanford & DeepLearning.AI) · Advanced Learning Algorithms (Stanford) · Generative AI Engineering & Fine-Tuning Transformers (IBM) · Fundamentals of AI Agents using RAG & LangChain (IBM) · Prompt Engineering for ChatGPT (Vanderbilt University) · AWS Cloud Practitioner Essentials (AWS) · Data Analysis with Python (IBM) · Financial Markets (Yale University)