

LIAM SHAW

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EDUCATION

FLAME University, Pune · B.Sc. (Hons) Computer Science · Minor: Business Analytics · **Full Scholarship** 2022 – 2026
La Martiniere for Boys, Kolkata · ISC 95% (2022) · ICSE 92.4% (2020) · SAT 1540/1600 (99th percentile) 2007 – 2022

SELECTED PROJECTS

- MoodTrack — Multimodal Music Emotion Recognition** · Graduation Project Mar 2026
- **Arousal CCC 0.774** across 1,802 annotated songs (DEAM) — a 4.9% improvement over the audio-only baseline (0.738); late-fusion **CNN-BiLSTM + DistilBERT** with learned gates that independently recovered the music-psychology finding that lyrics drive valence more than audio, without explicit supervision.
 - Personalised tri-branch model conditioned on listener demographics (**arousal CCC 0.533 across 5 archetypes**) — demonstrating statistically distinct emotion trajectories by demographic group across 277 listener profiles (MERP).
 - Deployed Flask web app with real-time MP3 upload, Chart.js live trajectory visualisation, and a persona-aware recommendation engine.
- ScoutAI — GenAI Football Scouting Platform** · Applied Generative AI Apr 2026
- **Full-stack AI app**: FastAPI + SQLite (~370 MB) + JWT auth; **NL2SQL query engine**, chain-of-thought scouting reports, agentic transfer-recommendation engine orchestrating search, similarity, and report tools autonomously; 20+ REST endpoints.
 - ML subsystem: PCA, Random Forest archetype classification, KMeans clustering, cosine-similarity player search, RAG-enhanced LLM inference (Groq llama-3.1-8b + Ollama fallback).
- FLAME Moodle Insight Dashboard** · Software Architecture (CSIT306) · Team Project 2025
- **Deployed and in active use** after 4 client consultation rounds with FLAME's Centre for Digital Learning — replacing a manual, hours-long Moodle CSV-to-Excel workflow with a local-first, privacy-preserving React + TypeScript dashboard (for FLAME pre-orientation courses).
 - Weighted engagement scoring with **traffic-light flagging** surfaces at-risk students automatically; scoring weights are tunable by CDL admins without code changes.
- Hybrid Fake News Detection (AMR + RoBERTa)** · NLP Research Dec 2025
- **87.07% accuracy** on FakeNewsNet — vs. 60–70% ceiling for standard baselines — combining RoBERTa embeddings with 26 hand-engineered AMR structural features (entity, syntactic, semantic, sentiment). RoBERTa alone: ~69%; threshold optimisation added a further ~3%.

EXPERIENCE

- Analytics & CRM Intern** — **ACEplus (Derek O'Brien & Associates)** · Kolkata May – Jul 2025
- **Analytics naming convention adopted by the engineering team**: designed Zone_Module_Action structure, audited 50+ inconsistent CleverTap events, authored 50+ event spec + 3-phase migration plan.
 - **Cohort insight**: workshop-driven users earned ~2× more in-app ACEs than organic signups — adopted by the product team to reprioritise school engagement programmes.
 - Python + FuzzyWuzzy deduplication resolved ~15% of inconsistent user profiles; built CleverTap audience filters and configured push, in-app, and email automation campaigns.
- Software Intern** — **Mandrake Tech** · Pune Oct 2024 – Jan 2025
- Built a containerised URL-shortening service (**Spring Boot, PostgreSQL, JWT auth**); Docker + Maven configuration removed environment-parity issues across the dev team.
 - Implemented REST-integrated frontend interfaces; owned the full request lifecycle from client UI through API routing to database persistence.
- Software Developer Intern** — **Willwali (Remote)** · Kuala Lumpur May – Jul 2024
- Flask/Jinja CRUD microservices; **50+ unit and end-to-end tests at 90%+ coverage**; found and documented 30+ bugs in the Bubble will-creation MVP.
 - Validated automated will outputs against Hindu Succession Act, Islamic Faraid distribution, and Malaysian inheritance law edge cases.

TECHNICAL SKILLS

ML / AI: PyTorch · HuggingFace Transformers · scikit-learn · XGBoost · CNNs · BiLSTMs · NLP · RAG · NL2SQL · PCA · Random Forest · KMeans · DistilBERT · RoBERTa · ResNet-18

Languages & Stack: Python · Java · JavaScript · TypeScript · SQL · C++ · FastAPI · Flask · Spring Boot · React · Docker · SQLite · PostgreSQL · HTML/CSS

Analytics & Tools: CleverTap · pandas · NumPy · FuzzyWuzzy · cohort analysis · campaign automation · Git · Jira · Jupyter · Maven · Bubble.io