

Arnab Boro

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EDUCATION

B.Tech: Computer Science | Polaris School of Technology | 2024 - 2028 | Bengaluru, India
CGPA: 8.5

EXPERIENCE

Frontend Development Intern | Attentive AI | June 2025 - December 2025 | Hybrid

- Shipped 24+ production features for AI-powered document-processing and monitoring platforms, including AI-assisted verification workflows and real-time data pipelines with optimised state management.
- Reduced user wait times by 40% by engineering error-handling and notification systems for AI processing workflows; resolved 11+ production bugs and shipped 15+ reliability/UX improvements.

PROJECTS

BeautyRAG — Hybrid Search & RAG Product Assistant : Tools: FastAPI, PostgreSQL, pgvector, Redis, Groq, sentence-transformers, Streamlit, Docker

- Built an async FastAPI backend combining PostgreSQL full-text search and pgvector cosine-similarity search via Reciprocal Rank Fusion (RRF) over an 8,000-product skincare catalog, improving Precision@5 by 13% over vector-only retrieval on a 12-query, human-labeled evaluation set.
- Implemented a grounded RAG shopping assistant on Groq with hallucination guardrails and Redis-cached responses, cutting p95 latency from ~3.3s to ~61ms (a ~54x speedup) on a cache hit; deployed via Docker to Render.
- Designed a 20-query evaluation harness (Precision@5, Recall@5, MRR) with ground truth built via mechanical SQL-filtered candidate shortlisting plus independent manual relevance labeling, avoiding self-graded results.
- [GitHub Repo](#) | [Live Demo](#)

Fleet Telemetry Analytics — Driver Risk & Vehicle Health : Tools: Python, Pandas, Scikit-learn, Streamlit, Plotly

- Engineered an end-to-end analytics pipeline over 13,000+ telemetry readings across 450 trips for 30 drivers/vehicles, deriving statistically-justified harsh-event thresholds (mean + 2σ) via Spearman correlation analysis.
- Designed composite driver-risk and vehicle-health scores, independently validated with K-means clustering (silhouette-optimised, k=3, zero tier overlap) and a corrected Isolation Forest anomaly detector; deployed as a live two-page Streamlit dashboard.
- [GitHub Repo](#) | [Live Dashboard](#)

BioAttend — AI Attendance System : Tools: FastAPI, PostgreSQL, pgvector, MinIO, Docker, InsightFace

- Built a biometric attendance platform using InsightFace's buffalo_s model for face recognition, storing face embeddings in PostgreSQL via pgvector for fast similarity search.
- Implemented multi-layer anti-spoofing (blink/EAR liveness detection + geofencing) and a professor-side OTP session flow to prevent proxy attendance; built a RESTful FastAPI backend with full CRUD.
- [Deployed Link](#)

SKILLS

Languages: Python, Java, JavaScript, TypeScript

Data & ML: NumPy, Pandas, Scikit-learn, SciPy, Monte Carlo Simulation, Time-Series Analysis, GBM, InsightFace

Backend & APIs: FastAPI, REST APIs, [Node.js](#)

Frontend: [React.js](#), Javascript, Typescript, HTML5, CSS3, REST/API integration

Databases: PostgreSQL, pgvector, MongoDB, MySQL, MinIO

Tools & DevOps: Git, GitHub, Docker, AWS, Postman, Streamlit, Plotly