

Akshita Mishra

+44 7599962127 | Bengaluru, India | akshitamishra027@gmail.com | [LinkedIn](#) | [Github](#) | [Portfolio](#)

SUMMARY

AI/ML Engineer specializing in aviation safety and flight operations, with hands-on experience building AI copilots, digital flight planners, and compliance dashboards. Skilled in aviation-grade integrations (ICAO, NOTAMs, Tomorrow.io) through Python, FastAPI, LangChain, and Hugging Face. Designed and deployed modules for fuel planning, weight & balance, performance, and navigation logs, replacing manual workflows with auditable and explainable automation. Experienced with LLMs, RAG pipelines, multimodal AI (BLIP-2, Whisper, OCR). Currently leading AI development at AIRMAN Aeronautics, with a proven ability to deliver AI systems that reduce pilot workload, optimize route planning, and enhance operational safety, prepared to scale this impact and contribute immediate value.

EXPERIENCE

AI/ML Engineer

July 2025 – Present

AIRMAN Aeronautics

Remote

- Spearheaded AI copilots and digital preflight systems, reducing pilot workload by ~50% per flight and ensuring compliance through auditable, explainable automation.
- Delivered an AI-powered Flight Planner (Python, FastAPI, LangChain, Hugging Face, and aviation-grade integrations) integrating ICAO codes, NOTAMs, METAR/TAF, Tomorrow.io weather, accelerated with AI coding agents (Cursor, Codex etc.) to shorten build cycles.
- Built AIRMAN Maverick - Copilot by combining LLMs with RAG pipelines (LangChain, ChromaDB), enabling natural-language queries of SOPs, checklists, and flight manuals with 95%+ reliability in testing.
- Engineered safety-critical modules (Weight & Balance, Fuel Planning, Altitude Optimization, Navigation Logs) using aviation-grade formulas and ICAO standards, cutting preflight prep time from 30 mins to less than 5 mins.
- Embedded Responsible AI safeguards (SHAP explainability, AIF360 fairness checks, hallucination detection, output monitoring), reducing unsafe responses by 30% in evaluations.
- Authored audit-ready documentation, evaluation protocols, and CI/CD workflows (Docker, GitHub Actions, ONNX) to support regulatory alignment and scalable deployment.
- Collaborated with instructors, ops staff, and engineers to ensure solutions were domain-aligned, pilot-friendly, and safety-compliant across training environments.

Associate Analyst – Technology Consulting

July 2021 – Sept 2023

Deloitte USI

Bengaluru, India

- Designed and deployed 15+ Power BI dashboards to monitor KPIs, churn risk, and operational metrics across finance, customer success, and compliance teams.
- Automated reporting workflows, reducing manual effort by 40% while improving data quality, auditability, and SLA compliance across global stakeholders.
- Applied statistical models (forecasting, variance analysis, hypothesis testing) to support quarterly planning, anomaly detection, and executive-level insights.
- Developed data pipelines to ingest and transform large-scale CRM and ERP data, enabling scalable reporting, segmentation, and risk monitoring.
- Created explainable segmentation models for 100K+ customer records, empowering targeted retention and proactive support strategies.
- Standardized analytical templates and trained cross-functional teams on dashboard adoption and data literacy to promote responsible data use.
- Collaborated with IT, data engineering, and compliance teams to resolve data integration issues and improve performance by 15%.

EDUCATION

University of Liverpool

September 2023 – December 2024

Post Graduate Diploma, Data Science and Machine Learning

Christ University

June 2018 – May 2021

Bachelor of Business Administration, Business Analytics

PROJECTS

AIRMAN: Intelligent Flight Planner System | *Python, FastAPI, React, Tomorrow.io, ICAO/NOTAM APIs*

- Built a production-ready digital flight planner automating fuel calculation, weight & balance, altitude optimization, and navigation logs under FAA/ICAO standards.
- Integrated real-time aviation data (METAR/TAF weather, NOTAMs, ICAO codes), reducing preflight preparation from 30 minutes to under 5 minutes.
- Delivered an auditable, modular backend and pilot-facing interface, replacing manual workflows with safe, transparent automation.

AIRMAN Maverick – Aviation AI Copilot | *LangChain, ChromaDB, Hugging Face, BLIP-2, Whisper*

- Developed a GenAI copilot enabling natural-language queries of SOPs, checklists, and manuals during training and preflight.
- Combined RAG pipelines, multimodal AI (image captioning, OCR, voice-to-text), and prompt safety layers, achieving 95%+ reliability in domain testing.
- Enhanced pilot decision support and compliance by embedding real-time context checks and safety prompts.

FairDeploy – Responsible AI Monitoring Framework | *SHAP, AIF360, ONNX, Docker, GitHub Actions*

- Designed a compliance and monitoring dashboard for deployed ML systems, tracking fairness, drift, and explainability.
- Integrated SHAP explainability, AIF360 bias analysis, and ONNX model export into CI/CD pipelines, ensuring scalable, transparent deployment.
- Applied as a Responsible AI layer across aviation copilots and planners to maintain trust and regulations.

Automated ETL Agent for Fraud Detection | *Python, ETL, DBSCAN, Risk Monitoring*

- Built a real-time anomaly detection pipeline for fraud scenarios, combining rule-based checks with unsupervised clustering (DBSCAN).
- Automated ingestion, risk scoring, and alerting with explainable dashboards to support compliance.
- Demonstrated ability to design domain-agnostic AI pipelines, later applied to aviation safety use cases.

SKILLS

- **Aviation AI & Flight Ops:** Digital Flight Planning (Fuel, W&B, Altitude, Nav Logs); Aviation Data Integration (ICAO, NOTAMs, METAR/TAF, Tomorrow.io), GenAI copilots for SOPs & checklists, Safety-critical automation.
- **AI/ML Expertise:** LLMs, SLMs, Hugging Face, Retrieval-Augmented Generation (LangChain, ChromaDB), Multi-modal AI (BLIP-2, Whisper, OCR), Anomaly Detection, Forecasting, Reinforcement Learning, Evaluation Metrics (WER, BLEU, ROUGE, perplexity).
- **Responsible AI:** Explainability (SHAP), Fairness (AIF360), Hallucination Mitigation, Auditability, Drift & Performance Monitoring, Compliance & Risk Controls.
- **Cloud & Deployment:** Python, FastAPI, Docker, GitHub Actions (CI/CD), ONNX, AWS (Bedrock–exploratory), Real-time model deployment & monitoring.
- **Data Visualization:** Power BI, Tableau, Matplotlib, Seaborn (dashboards & executive insights).
- **Soft skills:** Cross-functional Collaboration, Stakeholder Management, Client Engagement; Leadership; Training & Mentoring, Critical Thinking; Strategic Planning; Decision-Making; Adaptability;

AWARDS AND RECOGNITION

- **Spot Award – Deloitte USI (2021):** Recognized for delivering leadership-ready insights while managing evolving project requirements with clarity and precision.
- **Spot Award – Deloitte USI (2022):** Awarded for successful delivery on the D&R project, showcasing strong SME management, quick requirement comprehension, and team collaboration.
- **Deloitte People Network Shoutouts (2021–2023):** Recognized numerous times for bringing unique, out-of-the-box analytical perspectives to both conventional reporting and unconventional team initiatives, enhancing insight delivery and collaborative problem-solving.