

## Contact

cameronsobell@gmail.com

[www.linkedin.com/in/cameronsobell](https://www.linkedin.com/in/cameronsobell) (LinkedIn)

## Top Skills

OpenCV

PyTorch

TensorFlow

## Certifications

The Complete SQL Bootcamp: Go from Zero to Hero

Investment Banking Virtual Reality Intern Experience

Fundamentals of FinTech

Insurance Essentials, 2nd ed

Introduction to Programming Using Python

# Cameron Bell

AI/ML Engineer | Software Developer (AI Focus) | MSc Computer Science at IE University  
United Kingdom

## Summary

AI/ML Engineer | Software Developer (AI Focus)

I build intelligent systems that turn data into actionable insight. With a Master's in Computer Science & Business Technology from IE University, I combine machine learning, software engineering, and cloud architecture to create scalable, high-impact AI solutions.

My work includes:

- BHSI Risk Intelligence System - automated D&O renewals using LangChain, RAG, and FastAPI, aligning 80%+ with expert underwriter decisions
- Cloud migration & cost analysis platform - NLP + embeddings-based recommendation engine deployed with Supabase, Pinecone, and React
- MLOps pipelines and Deep Learning models - YOLOv8, CNNs, LSTMs, and CI/CD pipelines for automation and model reproducibility

I'm passionate about designing systems that bridge AI research and production engineering, delivering measurable results, reliability, and real-world value.

Open to opportunities in AI / ML Engineering, Data Science, or Software Development. Let's connect if you're building something innovative.

---

## Experience

IE School of Science and Technology

10 months

Corporate Project – Risk Assessment Tool for D&O Policy Renewals for BHSI

April 2025 - July 2025 (4 months)

LangChain | RAG | FastAPI | React.js | GCP | BigQuery | Docker | GitHub Actions

- Built an LLM-powered financial risk assessment system automating D&O insurance renewals for BHSI Spain, integrating LangChain + RAG pipelines with semantic search (768-dim embeddings) to generate real-time, evidence-based risk summaries
- Developed a full-stack platform (FastAPI + React.js) for entity lookup, news/filing ingestion, and hybrid rule + LLM risk classification, achieving ~80% alignment with underwriter logic
- Deployed via GCP with CI/CD (GitHub Actions, Docker) and structured logging, delivering sub-second cached queries and scalable, fault-tolerant pipelines for enterprise use

### Capstone Project – AI-Powered Cloud Migration & Cost Analysis Platform

January 2025 - March 2025 (3 months)

FastAPI | Supabase | Pinecone | LangChain | OpenAI | React + TypeScript | Docker | CI/CD

- Built an AI-driven cloud migration advisor for SMEs, integrating FastAPI microservices, Supabase backend, and Pinecone vector search to deliver intelligent, evidence-based migration strategies and cost forecasts
- Developed an NLP and embedding-based recommendation engine using LangChain + OpenAI embeddings, enabling semantic retrieval and context-aware recommendations for Rehost, Refactor, and Replatform decisions
- Architected asynchronous FastAPI services with Supabase data pipelines, Dockerized deployment, and CI/CD automation (GitHub Actions), improving deployment reliability and reducing manual migration planning time by 40%+

### Datathon Participant – IE Sustainability Datathon 2024

October 2024 - December 2024 (3 months)

Worked in a cross-functional team to forecast UK energy market prices and volumes using real-world time-series data for EDP.

Built and compared time-series models (ARIMA, SARIMA, Prophet)

## IE University

### Tech Venture Bootcamp

September 2024 - October 2024 (2 months)

Co-founded FinPlan, a Generative AI-powered personal finance MVP that combined market sentiment with user spending insights to explore real-time trading and saving advice

## United Utilities

### Innovation Intern

August 2022 - September 2022 (2 months)

Warrington, England, United Kingdom

- Audited and restructured 27+ process maps and guides, driving a 44% improvement in process clarity and consistency
- Designed standardised templates that reduced duplication and improved cross-team collaboration

## Hargreaves Lansdown

### Financial Advisory Intern

June 2022 - July 2022 (2 months)

City Of Bristol, England, United Kingdom

Streamlined client review reporting (ISAs, SIPPs, funds, and share accounts), improved turnaround ~15%

## AXA Health

### Service Advisor

March 2021 - November 2021 (9 months)

City Of Bristol, England, United Kingdom

Resolved high-volume (100s) client queries & designed support workflows with a 95%+ resolution rate

## Freedom Logistics (Amazon DSP)

### Fulfillment Associate

October 2020 - February 2021 (5 months)

Optimized order processing workflow & maintained quality under tight deadlines

## Bright Network

### Student Ambassador & Technology/Finance internships

June 2020 - August 2020 (3 months)

Managed communication and liaison duties as a Student Ambassador, coordinating outreach campaigns, answering inquiries, and representing internship programs to prospective students

Completed three rotational internships in investment banking, finance and professional services, and technology, gaining cross-domain exposure in the financial sector's tech stack

Conducted project-based research, data analysis, and financial modeling; collaborated with domain specialists to deliver reports and insights under tight deadlines.

## Bermuda Foundation for Insurance Studies

### Bermuda & Early Experience (Foundational Roles)

June 2015 - August 2018 (3 years 3 months)

#### Bermuda

Gained early exposure to insurance, risk, and financial operations at Validus Reinsurance (shadowing underwriters, actuaries, claims) and BFIS (Bermuda Foundation for Insurance Studies) - fostering foundational domain awareness relevant to risk and data fields

Developed strong customer service, communication, and problem-solving skills in hospitality and education roles (Beach Attendant, BUEI Intern) - interacting with tourists, supporting outreach events, and managing public-facing operations under time constraints

Led public speaking and engagement efforts (guided tours, group presentations, marketing outreach), enhancing confidence and the ability to synthesize technical and non-technical content.

---

## Education

### IE School of Science and Technology

Master's degree, Computer Science and Business Technology · (September 2024 - July 2025)

### University of Bristol

Bachelor's degree, Business Administration and Management, General · (2017 - 2020)

Ardingly College

International Baccalaureate · (2015 - 2017)

Warwick Academy

I/GCSE's - 4 A\*s, 3 A's, 1 B, 1 C · (2013 - 2015)

# 05\_Master\_CV\_Bank.md

## Cameron Bell

London, UK | (+44) 7428 259933

[cameronsobell@gmail.com](mailto:cameronsobell@gmail.com) | [linkedin.com/in/cameronsobell](https://linkedin.com/in/cameronsobell) | [github.com/cam-bell](https://github.com/cam-bell) | [cameron-bell.vercel.app](https://cameron-bell.vercel.app)

## Professional Summary

MSc Computer Science & Business Technology graduate skilled in Python, SQL, and JavaScript, with hands-on experience in RESTful APIs, full-stack applications, and cloud deployment (AWS, GCP, Azure). Proficient with FastAPI, Flask, React, and CI/CD pipelines (GitHub Actions, Docker). Strong collaborator with experience translating technical requirements into user-friendly solutions.

## Education

### IE School of Science and Technology

Madrid, Spain

*Masters in Computer Science and Business Technology*

Sep 2024 - Jul 2025

- Leadership: Class Representative, Community Engagement Rep, Tech & Innovation Club Events Officer (2025)

### University of Bristol

Bristol,

United Kingdom

*Bachelor of Science, Management*

Sep 2017 – Jul 2020

- Modules: Project Management, Consultancy Project, The Digital Economy, Strategic Finance

## Skills

**Languages and Data tools:** Python (NumPy, Pandas, scikit-learn) · JavaScript / TypeScript · SQL

**AI / ML / LLM:** TensorFlow · PyTorch · HuggingFace · LangChain · Prompt engineering & Tuning · RAG / Embeddings · OpenAI

**Backend + API/Web:** FastAPI · Flask · React · Node.js

**Database + Vector / Storage:** PostgreSQL · BigQuery · Supabase · Pinecone · Redis

**MLOps, Deployment & Cloud:** Docker · CI/CD / GitHub Actions · AWS · GCP · Azure · Weights and Biases (W&B)

## Major Projects

### Corporate Project – BHSI Risk Classification System

*(Berkshire Hathaway Specialty Insurance)*

Apr 2025 – Jul 2025

LangChain | RAG | FastAPI | React.js | GCP | BigQuery | Docker | GitHub Actions

- Architected and deployed a production-grade AI risk scoring platform for D&O renewals using LangChain + RAG + embeddings (768-dim), achieving ~80% alignment with underwriter decisions.
- Built a full-stack platform (FastAPI + React.js + GCP), automating entity lookup, news/filings ingestion, hybrid rule + LLM classification, reducing manual review time across 50+ companies.
- Implemented CI/CD with GitHub Actions, containerized services, structured logging, and error handling to ensure observability, reliability, and maintainability in production environments

### Natural Language Processing

Apr

2025 – Jun 2025

- Developed a multilingual NLP pipeline combining transformers (RoBERTa, BERT) and fallback logic to achieve 100% success over 239 reviews with 0.80 confidence
- Built a Streamlit-based app delivering GPT-powered sentiment / emotion / summarization + JSON API exports across 4 platforms with flawless error handling

- Implemented semantic keywording via KeyBERT + LaBSE embeddings, surfacing 19 topics across English/Spanish and enabling cross-platform benchmarking

## Capstone Project – Cloud Migration & Cost Analysis Tool

Jan 2025 – Mar 2025

*FastAPI | Supabase | Pinecone | LangChain | Python (scikit-learn, Pydantic, asyncio) | OpenAI | React + TypeScript | Docker | CI/CD | NLP | ML Pipelines | Redis*

- **Engineered a modular multi-service platform (FastAPI + React + Supabase + Pinecone)** that provides **AI-driven migration strategy recommendations** (Rehost → Refactor → Replatform) and predictive cost analysis for SMEs.
- **Developed an NLP and embedding-based recommendation engine** using **LangChain + OpenAI embeddings**, enabling **semantic vector retrieval** and **context-aware migration insights** powered by **Supabase data pipelines** and **asynchronous FastAPI endpoints**.
- **Architected full-stack microservices** for analysis, recommendation, and cost estimation; implemented **CI/CD with Dockerized deployment**, caching, and real-time analytics dashboards, reducing manual planning effort by **>40 %** and improving forecast accuracy by **~25 %**.

Frontend

- **Built a React + TypeScript frontend** with **Supabase Auth**, **real-time FastAPI integration**, and **interactive dashboards** for cloud cost comparison and strategy visualization.
- **Designed responsive UI components** (charts, filters, data tables) with **dynamic forms**, **retry states**, and **PDF/CSV exports**, improving stakeholder usability and cross-cloud decision support.

## Computer Vision

*Python, PyTorch, OpenCV, YOLOv8/v11, React, FastAPI, Lovable.dev*

- **Trained and deployed YOLOv11s object detection models** on **aerial imagery** for **swimming pool detection**, achieving **95.5% mAP** after **30 epochs** through transfer learning and dataset augmentation across **288 images**.



- **Developed a real-time ASL recognition system** using **YOLOv8**, reaching **90% mAP@0.5**, **85.2% precision**, and **96.0% validation accuracy** on a **1,083-image dataset**, integrating **transfer learning**, **augmentation**, and **custom annotations**.
- **Built a full-stack educational app (React/TypeScript + FastAPI)** featuring a **webcam inference pipeline**, gamified learning modes, and **75 ms latency (~13 FPS)**; deployed on **Lovable.dev** with structured logging, error handling, and API documentation.

## Machine Learning Operations (MLOps)

MLflow, Hydra, Weights & Biases, Docker, FastAPI, GitHub Actions, Python

- **Developed and orchestrated a 9-step MLOps pipeline for diabetes readmission prediction**, modularizing data ingestion, feature engineering, model training, and inference using **MLflow, Hydra, and Weights & Biases (38+ tracked runs)** for full reproducibility and versioning.
- **Implemented CI/CD workflows** with **GitHub Actions, Docker, and FastAPI**, enabling **real-time /predict endpoints** and reducing deployment time **from days to minutes** while maintaining **scalable batch inference and experiment traceability**.
- **Engineered robust evaluation and monitoring frameworks** (6+ metrics, structured logging, automated visualization), transforming a research notebook into a **production-grade ML system** that improved deployment reliability and collaboration.

## Machine Learning and Artificial Intelligence

Python, scikit-learn, XGBoost, pandas, matplotlib, SMOTE, GridSearchCV

- **Developed, tuned, and benchmarked** multiple ML models (**Linear, LASSO, Random Forest, XGBoost, KNN**) across **real-world datasets** (housing, churn, diabetes), applying **feature engineering, cross-validation, and cost-sensitive learning** to achieve up to **93.2% accuracy** and **+8.2 pp lift** over baselines.

- **Engineered scalable ML pipelines in Python (scikit-learn, XGBoost)** with **imputation, scaling, SMOTE**, and **GridSearchCV**; improved model generalization and maintained reproducible performance across **>20 K samples**.
- **Delivered interpretable business insights**, quantifying **\$15.79 M projected savings** and **37% ROI** from a **Random Forest readmission predictor**, integrating feature selection and precision-recall trade-off optimization.

## Deep Learning

TensorFlow, Keras, CNN, LSTM, FaceNet, MTCNN, Flask, React Native, Google Cloud

- **Developed and tuned** deep neural networks in **TensorFlow/Keras** for classification, regression, and sequence modeling; implemented **CNN, LSTM, and MLP architectures** with **regularization, dropout, and transfer learning**, improving generalization by **>10% over baseline models**.
- **Built a one-shot facial recognition system** using **FaceNet + MTCNN**, achieving **90% match accuracy** across **7 test subjects** with **128-D embeddings** and **threshold-calibrated verification**; deployed via **Flask (Google Cloud) + React Native** for real-time mobile identity verification.
- **Engineered a full preprocessing and evaluation pipeline** (OpenCV, L2 normalization, alignment, EXIF correction) to support **low-data inference without retraining**, enabling reproducible and lightweight model deployment.

## Generative AI

- Developed a **GPT-4-powered LLM prototype** to automate hospital discharge summaries, leveraging **retrieval-augmented generation (RAG)** with secure **Azure AI Search**. Processed **1,000 synthetic patient records** in testing
- Built and deployed a **React + Flask full-stack AI application** with synthetic patient data, PDF export, CRUD functionality, and GPT-4 summarisation
- Designed ethical workflows to reduce hallucinations, safeguard privacy (**HIPAA, GDPR**), and embed **Responsible AI (RAI)** practices across the AI pipeline.

- **Hardened for quality & privacy** by enforcing retrieval-only prompting, confidence thresholds, and **human-in-the-loop review**, and documenting **HIPAA/GDPR** design considerations (redaction, access control, auditability).
- **Engineered evaluation harness** on synthetic patient records to track correctness/coverage and latency; added **verification/fallback logic** to avoid unverifiable outputs and surface citation gaps.
- **Delivered stakeholder demo & technical docs** (architecture, risk controls, ops runbook) and scoped an **on-prem/Azure** deployment path with key rotation and role-based access.

## Datathon – Energy Forecasting

*Nov 2024*

- Built and benchmarked three time-series models (ARIMA, SARIMA/SARIMAX, Prophet + exogenous variables) on **118,320 half-hourly observations (~6.75 years)** using walk-forward validation, reducing error by **47% vs baseline**.
- Integrated **Day-Ahead, Intraday, and Balancing market signals** to deliver **RMSE  $\approx$  £22/MWh (System Price)** and **RMSE  $\approx$  458 MW (Net Imbalance Volume)** at 30-min cadence, supporting BESS trading strategies.
- Developed a 48-step (24h) forecasting engine, published full reproducible artifacts (notebooks, CSV outputs, metrics) and a 5-minute executive summary presenting a **multi-market BESS strategy** with average spread  $\approx$  €189/MWh in the Balancing market

## Cloud Foundations

*Group Assignment*

- **Designed and deployed** multi-service cloud architectures on **AWS and Azure**, covering storage, database, compute, and security for enterprise-scale use cases.

- **Led cost estimation** for a scalable analytics solution with the **AWS Pricing Calculator**, optimizing budget/performance trade-offs (12-month cost: ~\$78.6K).
- **Configured and benchmarked** AWS services (RDS, Redshift, S3, EC2, CloudFront, Lex), selecting optimal **IaaS, PaaS, and serverless** components to balance performance and cost.
- **Implemented and secured** workloads with **VMs, IAM policies, API Gateway, and monitoring tools** across AWS and Azure, ensuring scalability and compliance with best practices.
- **Applied cost optimization strategies** (multi-AZ deployments, backup policies, utilization analysis, pricing model comparisons) to reduce projected spend and improve resilience.
- **Delivered a consultancy-style presentation** simulating a real-world cloud migration pitch, translating technical design (HA, DR, security frameworks) into business value for stakeholders.

## Data Analytics for Decision Making

### Gapminder Data Analysis Project

- Conducted exploratory analysis on **1,700+ global records (Gapminder, 1952–2007)**, applying regression and clustering to uncover **5 key insights** and segment countries into **4 development groups**.

### Final Quiz (Data Quality Pipeline)

- Built an end-to-end **data quality pipeline** (imputation, outlier removal, scaling/encoding) that reduced dataset missingness **from 4.55% → 0% (4,797 values)**, delivering a **clean model-ready table**.

### Group Project: Used Car Price Prediction

- Developed a reproducible **price-prediction workflow** over **100K+ vehicle listings**, achieving  **$R^2 \approx 0.50$  |  $MAE \approx 6,047$** , and visualised key predictors to inform business pricing strategies.

### Fool Me - Misleading Graph

- Designed a **data ethics case study** contrasting manipulated vs. corrected visualisations, producing a peer-reviewed **checklist cited by 19 peers** as a

framework for ethical analytics.

## **Professional Experience**

**United Utilities (*Water and Wastewater services*)**  
**United Kingdom**

**Warrington,**

*Innovation Intern*

Aug 2022 – Sep 2022

- Standardised 27 SOP/process assets with reusable templates, improving onboarding and knowledge transfer
- Delivered senior-level presentations (Innovation Model briefing) to clarify strategy and align stakeholders

**Hargreaves Lansdown (*Wealth Management & Financial Services*)**   **Bristol,**  
**United Kingdom**

*Financial Advisory Intern*

Jun 2022 – Jul 2022

- Streamlined advisory review workflows (ISA, SIPP, funds, shares), improving adviser efficiency and data accuracy
- Designed and presented an intern-led survey to the Executive Committee, shaping HL's employer branding strategy

# Volunteering

- Events Officer - IE Technology & Innovation Club
- Class Representative - IE University
- Community Engagement Representative - IE University
- Parent Mentor - EFM Society (University of Bristol Economics, Finance, and Management)
  - Helped first year students with subject-related queries, social events, extracurricular activities and becoming accustomed to university life.
- Member - EFM Society (University of Bristol Economics, Finance, and Management)
  - Played for EFM football team
- IT Ambassador - Ardingly College
  - I supported local elderly residents with technology queries and computer skills. I have always had an affection for elderly citizens due to my close relationship with my grandparents. This was a way to help teach them key technological skills, to "keep up with the times" of technological advancement. I found this experience also helped stimulate my problem-solving nature.
  - During this volunteering experience, I completed and explained tasks such as social media functionality, email responses, and navigation through websites and their computer.