Laura Rossi

Actuary (FSAI, FIA) · Senior Software Developer

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FSAI · FIA Qualified actuary, 2024	**7+ years** Pricing, reserving and data systems	**AI in production** LLM features at AerPrice	**William Hannan Medal** Society of Actuaries in Ireland, 2025

SUMMARY

Qualified actuary and senior software developer with 7+ years of experience building pricing, reserving, capital and data systems for insurers, reinsurers and aircraft lessors. Combines actuarial judgement with production engineering in Python and SQL, and leads the delivery of AI and traditional features into production. Comfortable in front of boards, clients and audit reviewers. SAI Council member and 2025 William Hannan Medal recipient.

EXPERIENCE

Senior Software Developer

Aug 2025 – present

AerPrice, Dublin · Aircraft leasing pricing software startup · Python, Flask, SQLAlchemy, SQL, JavaScript

- Lead and main maintainer of the maintenance reserves engine, the product's core calculation: monthly reserve accrual per aircraft component from utilisation and lease conditions. Refactored it end to end for multi-lease scenarios, speed and new inputs.
- Designed and documented much of the database schema (SQL Server); keep it in third normal form and review all schema changes.
- Set technical direction, architecture and priorities; present to the board.
- Built the testing framework (pytest, Playwright) and CI (GitHub Actions) from scratch; run deployments and release notes.
- Lead developer on the team that delivered the product's LLM features: document extraction (Azure AI Document Intelligence) and a natural-language assistant over the pricing engine; took AI prototypes to production.
- Mentor the junior developer; set design, review and documentation standards.

Assistant Manager · Actuarial Consultant · Actuarial Analyst

Sep 2021 – Jul 2025

Deloitte Ireland, Actuarial Modelling Centre · Promoted twice

- Technical lead on an internal-model capital solution for a large UK life and pensions provider.
- Lead developer on an assumptions management system for a large UK life and pensions provider; now live, with excellent user feedback.
- Built a Python Solvency II calculation and reporting engine for a large Irish life insurer, integrating with MG-ALFA.
- Migrated a reinsurer's data validation from Access and VBA to Python, 100 times faster.
- Pricing, reserving and reinsurance models; reserve recalculations and model replications for actuarial audits, reconciled within 1%; memos for partners and audit review boards; client presentations.
- Data pipelines, Power BI dashboards and development standards; led training for developers, actuaries and clients.

Earlier roles

- **Consultant** — TruQua Enterprises, Chicago, Aug 2018 – Jul 2019. Delivered key components of a $775m SAP FICO and HANA implementation for a consumer goods client; data modelling, testing, and machine learning proofs of concept in Python.
- **Online Instructor and Content Designer, Data Communication** — Purdue University (part-time), Jan 2020 – May 2021. Taught data visualisation and storytelling online to classes of up to 200 students; built course material and assessment rubrics.
- **Research Assistant, Political Science** — University of Chicago, 2016 – 2018. Built text-mining software for 15 million tweets in Python and R.

PROJECTS

- **Plan Away** — live group trip-planning app in 30+ languages. JavaScript, Cloudflare Workers, Firestore.
- **Eevie** — real running-cost comparison for EV and petrol or diesel cars from weekly EU fuel data. FastAPI, PostgreSQL, React/TypeScript; 337 tests.

- **MTG Chicken Soup** — AI deck builder grounded in card data with pgvector search; swappable LLM providers. FastAPI, Next.js.

SOCIETY OF ACTUARIES IN IRELAND

Volunteer, Mar 2022 – present

- **William Hannan Medal 2025** for Outstanding Contribution by a Recent Qualifier.
- Council member; Chair of the Recently Qualified Committee; Data Science & AI Committee.
- Co-lead of the 2026 Current Topics Paper; author of six articles, including AI explainability, ethics in AI and the EU AI Act; frequent CPD talks.

SKILLS

Actuarial	pricing, reserving, reinsurance, assumptions management, model validation, actuarial audit, Solvency II, capital and internal models, catastrophe modelling; MG-ALFA, Tyche
AI and machine learning	LLM application development (prompt engineering, multi-step pipelines, tool use, retrieval with embeddings, document extraction), machine learning, explainability (SHAP), AI coding agents (Claude)
Programming	Python (pandas, Numba, Flask, SQLAlchemy, FastAPI), SQL, R, JavaScript/TypeScript, React, C++, VBA, PowerShell
Data and cloud	Microsoft Azure (including Azure AI Document Intelligence), Google Cloud Platform, Azure Databricks and Data Lake, Docker, ETL
Databases	SQL Server and Azure SQL (T-SQL), PostgreSQL, SQLite; NoSQL: Cosmos DB, Firestore, Redis; schema design and documentation, normalisation (3NF), indexing, stored procedures, pgvector
Engineering practice	Git, GitHub Actions, Azure DevOps, automated testing (pytest, Playwright), code review, Agile
Data visualisation	Power BI, Tableau, Plotly, R, Excel, Recharts

QUALIFICATIONS AND EDUCATION

- **Fellow, Institute and Faculty of Actuaries (FIA)** and **Fellow, Society of Actuaries in Ireland (FSAI)**, 2024
- **STEM MBA, Business Analytics and Information Management** — Purdue University, 2019 – 2021, with a **Graduate Certificate in Statistics**
- **BA, Political Science** — University of Chicago, 2014 – 2018. Dean's List; captain of the rowing team

LANGUAGES

Spanish (native) · English (fluent) · French (advanced) · German (intermediate) · Japanese (elementary)