

EDWARD PEARCE

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EXPERIENCE

Hyperexponential

Senior Model Developer

August 2023 - Present

London, UK

- Tech lead managing actuarial teams of up to 5 developers across 8 pricing software transformation projects to transfer premium revenue and data flows onto the hx Renew SaaS platform, successfully delivering for several market leading global (re)insurers across a wide range of business lines, including:
- Commercial Property D&F, US Primary and Excess Casualty, Cyber Insurance and Reinsurance, US Umbrella and Structured Auto Fleet, Shipowners, Directors and Officers, Professional Indemnity
- Line management of 3 direct reports through onboarding, training, performance management processes
- Refining technical interview process, training new interviewers, hiring 9 new model developers and 1 technical enablement specialist over 6 months, doubling our professional services consulting capacity
- Managing multiple strategic accounts, resolving technical challenges, improving customer sentiment, unlocking business value, and driving increased gross and net revenue retention
- Hosting bespoke proof-of-concept workshops demonstrating our platform's functionality and capabilities
- Developing and maintaining reusable assets and demos to efficiently optimise customer acquisition costs
- Project management between customer and in-house stakeholders of varying technical backgrounds, synthesising business requirements, clearly communicating expectations and timelines, allocating tasks
- Providing regular code review and oversight on backend algorithms and frontend UI design, identifying opportunities for improved maintainability and performance optimization in line with best practice, achieving minutes-to-seconds speed improvements through efficient data management or parallelization

Liberty Specialty Markets

Pricing Analyst

June 2022 - August 2023

London, UK

- Delivering actuarial pricing and portfolio analytics across specialty and commercial insurance and reinsurance lines of business in multiple continents, including European PI, D&O, and Marine Hull
- Full-stack web development of reinsurance contract pricing application using simulated loss distributions
- Leading digital transformation group project translating Excel rating tools into Python/React web applications for underwriters and actuaries; organising and running Agile retrospective sessions
- Conducting comprehensive peer review for predictive modelling projects, covering documentation practices, data quality, statistical modelling assumptions, and technical code review; Creating evaluation framework including checkpoints, required outputs, and review checklists for each stage of model R&D
- Running training sessions on software development best practices, unit testing, and version control; coaching junior team members in programming, and project line management for graduate rotation

Munich Re (GrovesJohnWestrup Private Clients)

Pricing Data Scientist

March 2021 - June 2022

London, UK

- Building and managing the company's data analysis and visualization infrastructure end-to-end using Python, R, SQL, Power BI, including data engineering, API enrichment, and dashboard production for daily monitoring of sales funnel, claims, premium adequacy, broker performance, AML compliance, etc.
- Collaborating across functions to understand business requirements and create automated tools saving hours per week on BAU processes (7.5% of one team's time) and enabling more data-driven approach
- Developing, testing, and deploying machine learning models to enhance pricing and portfolio management in home insurance and pet insurance contexts

EDUCATION

The University of Sheffield, PhD in Mathematics

October 2016 - March 2021

Generalized core-quotient decomposition for partitions and applications in algebraic geometry

University of Warwick, MMath Master of Mathematics

October 2012 - July 2016

First Class Honours. 92.8% overall; top 2% in a class of ≈ 300 .

TEACHING EXPERIENCE

Graduate Teaching Assistant

October 2016 - December 2020

University of Sheffield: Face-to-face and online teaching experience leading tutorials on topics including Core Mathematics, Engineering Mathematics, Scientific Computing, and Statistical Data Science.

Programming labs and mathematics tutorials with class sizes ranging from 15-40 students.

Supervisor

October 2015 - July 2016

University of Warwick: Small group teacher for 2x5 1st year mathematics students plus marking.

PROJECTS

Physics Simulation: n-body system

Spring Semester 2020

Extracurricular course assignment for COM4521 Parallel Programming with GPUs. Comparing performance of serial and parallel programming techniques using C, OpenMP, and CUDA.

Source code: <https://github.com/edwardmpearce/COM4521>

PyParti: Python for Partitions

July 2020

Python/SageMath package for integer partitions, combinatorics calculations and visualization.

Automated testing with GitHub Actions workflow. Cloud-hosted notebooks with Docker and Binder.

Source code: <https://github.com/edwardmpearce/pyparti>

Personal Website

Spring 2019 - Present

Website for online resume, teaching material, mathematical puzzles, web development practice.

Written with Hugo (Go-based web framework). Continuous Integration with Travis CI.

Partitions Lab

Spring Semester 2019

Tutorial website about integer partitions, with interactive code cells using SageMath computer mathematics software. Written with Hugo, LaTeX, TikZ, HTML, JavaScript.

Artificial Intelligence and Earth Observation for the Prediction of Malaria Outbreak Risk

May 2019

Data science project for isardSAT using satellite data on soil moisture and land temperature.

Source code: <https://github.com/edwardmpearce/cardiff-study-group-ai-in-healthcare>

Presented at Innovate UK AI in Health & Care Study Group with Industry at Uni. of Cardiff.

Sporadic Finite Subgroups of $SL(3, C)$ and their McKay Quivers

July 2015 - September 2015

Funded by grant through the Undergraduate Research Scholarship Scheme, supervised by Professor Miles Reid, University of Warwick. Source code: <https://github.com/edwardmpearce/urss-project>

Presented at Warwick Imperial Autumn Meeting (Uni. of Warwick, Nov. 2015)

ADDITIONAL SKILLS

Computer Languages

Python (PyData stack: pandas, scikit-learn, matplotlib, Plotly),
C (OpenMP, CUDA), R, Power BI (Power Query M, DAX),
Java, JavaScript, Matlab, Mathematica, Magma, Excel VBA

Databases

MySQL, Oracle SQL, MongoDB, MSSQL Server, T-SQL, Snowflake

Tools and Frameworks

LaTeX, git, bash, Hugo, Flask, React JS, Docker

Languages

English (native), Mandarin Chinese (Limited working proficiency)

Interests

Indoor Bouldering, Yoga, Urban Cycling, CS50x, Advent of Code