

CV

Justin Whitehouse

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Professional Experience

Associate Director, Product Manager

Moody's Analytics | Dec 2025 – Present

Product manager for underwriting and financials line solutions in the newly formed Casualty and Financial Lines Insurance business unit.

Associate Director, Advisory Services

Moody's Analytics | Oct 2024 – Dec 2025

Lead on correlation-study projects with Fortune 500 insurer and other clients, measuring relationships between Moody's data assets and Casualty claims. Key strategic initiative for the Casualty and Financial Lines Insurance business unit.

Key Skills:

Project management, customer success, stakeholder management, statistics, machine learning, technical writing, prototype design, R, Python, SQL, Azure Data Factory, Moody's DataHub, Git/GitHub, model validation

Associate Director - Advisory Services

Moody's Analytics | Nov 2022 – Oct 2024

Seconded to lead design and build of prototype insurance-associated emissions (IAE) solution. SME on Scope 3 Cat 15 emissions accounting aligned with PCAF standard. Led managed-service delivery and specifications for production solution in Exposure IQ and SME for underlying emissions database design and applications to IAE solution. Ran client advisory projects on early IAE solution prototype and led engagement with 35+ insurer meetings in Lloyd's market PoC.

Key Skills:

Quant analysis, prototype design, R, workflow design, PCAF, IAE regulation, SQL, Azure Data Factory, DataHub

Associate Director - Advisory Services

Moody's Analytics | Jan 2022 – Jun 2023

Seconded to ESG scorecard project with Chaucer. Co-led design and build of prototype ESG scoring tool for underwriters with internal and external stakeholders. Designed a 'managed-service' workflow that is run across multiple internal teams to deliver the ESG data and solution to clients.

Key Skills:

Quant analysis, VBA, R, prototype design, workflow design, client engagement

Assistant / Associate Director - Capital Modelling Advisory Services

Moody's Analytics | Nov 2019 – Jun 2023

Supported clients using the Scenario Generator and Proxy Generator for capital modelling applications, in particular for their Solvency 2 internal model. Led the day-to-day project activities with a large Italian insurer, the design and build of updates to the config builder tool and the design and build of the proxy roll-forward tool.

Key Skills:

Monte Carlo simulation, VBA, Python, SQL, C#, polynomial regression, model validation

Assistant Director - Modelling and Calibration Services

Moody's Analytics | Sep 2017 - Nov 2019

I was responsible for leading the sign-off of the premium real world financial model calibration stream (Best Views) as well as the real world equity model calibration stream. I also led the sign-off of the real world strategic asset allocation calibration stream (Dynamic Equilibrium). Working with the engineering team, I helped to design the specification of the service delivery infrastructure as well as performing quantitative QA on its functionality. These responsibilities were taken on in addition to those in my previous role as an Advisory Services Associate.

Advisory Services Associate - Modelling and Calibration Services

Moody's Analytics | Sep 2017 - Apr 2019

I was responsible for sign-off on calibrations of a range of stochastic models for financial risks, including interest rates and credit spreads, that are delivered quarterly to a large number of clients in the insurance, pensions and asset management industries. I was also responsible for regular implementation of bespoke model calibration and scenario set delivery. I worked on the support desk answering technical and quantitative queries from clients regarding models and product. I also provided quantitative model and calibration research support on an ad hoc basis.

Advisory Services Graduate

Moody's Analytics | Sep 2016 - Sep 2017

Performed bespoke quantitative analysis for clients (typically in the insurance sector), including configuring and running Monte Carlo simulations using the Scenario Generator product and performing script or spreadsheet based data analysis.

Postdoctoral Researcher

University of Edinburgh | Jan - Mar 2016

Studied ratcheting mechanisms in cell motility using Monte Carlo simulations and analytical modelling. Managed large datasets and developed mathematical insights.

Personal Tutor

Self-Employed | 2015 - 2016

Tutored high-school students in Mathematics and Physics. Developed custom teaching materials and exercises.

Teaching Assistant

University of Edinburgh | 2011 - 2015

Tutor for Electromagnetism, Thermodynamics, Statistical Mechanics. Demonstrator for Scientific Programming (Java).

Publications

Width scaling of an interface constrained by a membrane

Physical Review Letters (Editor's Suggestion) | Aug 2018

Co-developed analytics, wrote Java simulation code, and built Python/Bash data-processing pipeline.

In this paper we investigated the stochastic dynamics of a growing interface in the presence of an impenetrable moving membrane, which was designed as a simple model for movement in certain types of biological cells. I helped develop the analytics that describe some properties of the model. I also wrote the Java code that was used to perform Monte Carlo simulations, and the python and bash scripts that were used to perform data processing and analysis. I helped to prepare the paper for scientific publication.

Authors: Justin Whitehouse, Richard A. Blythe, Martin R. Evans, David Mukamel

- [Phys. Rev. Lett. 121 058102 \(2018\)](#)
 - [arxiv \(pdf\)](#)
-

Maintenance of order in a moving strong condensate

Journal of Statistical Mechanics | Nov 2014

Developed Java simulation code, Python/Bash analysis scripts, and mathematical theory explaining phase transition.

In this paper we investigated the dynamics of a stochastic model of non-equilibrium mass transport, of the kind which are crucial for understanding, for example, biochemical processes which occur in living cells. I developed Java code to perform numerical simulations, and used python and bash scripts to process the data. I also helped develop a mathematical theory which explains the nature of a phase transition which occurs in this system, and drafted the paper for scientific publication.

Authors: Justin Whitehouse, André Costa, Richard A. Blythe, Martin R. Evans

- [Phys. Rev. E 87 022118 \(2013\)](#)
 - [arxiv \(pdf\)](#)
-

Effect of partial absorption on diffusion with resetting

Physical Review E | Feb 2013

Derived analytical results for mean time to absorption in diffusion-with-resetting model.

In this paper I studied a model strategy for searching and locating a target, which involves undergoing diffusion and then resetting one's position to some location to try again, as an improvement on a purely diffusion based search strategy. I derived mathematical formulae for the Mean Time to Absorption of the searcher by the target, and other quantities of interest, in the case where the target has some probability of being receptive to the searcher.

Authors: Justin Whitehouse, Martin R. Evans, Satya N. Majumdar

- [J. Stat. Mech. \(2014\) P11029](#)
 - [arxiv \(pdf\)](#)
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Education

PhD, Statistical Physics

University of Edinburgh | 2011 – 2015

Thesis: *Stochasticity and Fluctuations in Non-equilibrium Transport Models*

I created and analysed models of stochastic processes using mathematical tools, such as stochastic master equations, and Monte Carlo simulations. Understanding these is important for gaining insight into a wide array of mass transport phenomena which are out of equilibrium. This field of research is particularly useful for understanding complex biochemical processes in cells, which are inherently out of equilibrium.

Supervisors: Prof. Martin R. Evans, Dr. Richard A. Blythe

MSci Physics with Theoretical Physics (First Class)

Imperial College London | 2007 – 2011

Courses include: Statistical Mechanics, Quantum Field Theory, General Relativity, Group Theory

Masters Project: In this project, I investigated the formation and collapse of communities in social networks with numerical simulations and compared the results with data collected from the interactions between users of an online game.

Supervisor: Dr. Tim Evans

A-Levels

Dame Alice Owen's School | 2005 – 2007

Grade A: Physics, Chemistry, Maths, Further Maths

GCSEs

Dame Alice Owen's School | 2005

Grade A*: Maths, Physics, Chemistry, Biology, Japanese

Grade A: English Language, English Literature, History, German

Skills

Computing

Main: R, Python

Familiarity: C#, Java, C++, Bash, Git, Make, LaTeX, HTML

General: Microsoft Office, Windows, Linux, macOS

Languages

English: Native

German: Intermediate

Activities & Leadership

- Editor, Outreach Magazine — University of Edinburgh
- Group Leader, Edinburgh University Hillwalking Club
- President, Physics Intergroup Postgraduate Committee
- Committee Member, Imperial College Outdoor Club
- Member, Imperial College Football Club