DR CHRIS FAIRLESS

DATA SCIENTIST METEOROLOGIST DEMOGRAPHER

CONTACT

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PROFILE

I'm a data scientist with experience in the public and private sectors. I enjoy working with stakeholders to design robust, reusable models, tools and pipelines. I've worked in several fields now and still can't tell you whether clouds or humans are harder to predict.

EDUCATION

PhD in Atmospheric Science
University of Manchester 2016

The automated detection of small-scale polar storms in ten years of data, and a climatology of their structure and characteristics

MA in Environmental Science
University of Cambridge 2010

A new Southern Ocean sulphur emissions inventory using satellite colour data.

BA in Mathematics
University of Cambridge 2008

SKILLS

Major

Atmospheric modelling
Statistical modelling
Reproducible data pipelines
R, SQL, NCL
Bash, Linux and HPC environments
QGIS and ArcGIS
Automation
Git, GitHub and collaborative code

Minor

Machine learning in R
Python, Fortran, C, Perl, SPARQL

KEY EXPERIENCE

Senior Analyst – Predictive Modelling
Greater London Authority: March 2019 - Present

London needs to know its future population so that it can plan school places, housing and infrastructure. I've been building the next generation of population models to do this.

- Designing and building modular demographic models.
- Maintaining relationships with model users
- Introducing stochastic uncertainty based on timeseries analysis of migration data.
- Using machine learning and new data sources to improve the modelling of birth and death rates.
- Implementing version control, Agile methodologies, coding best practices and code review for the team.

Analyst – Event Response
Risk Management Solutions: October 2016 – March 2019

I wrote, maintained and automated code to forecast and reconstruct natural disasters in near-real time. I specialised in European extratropical cyclones, western Pacific tropical storms, and global floods. I produced bespoke modelling and reports for clients.

Intern – Flood Modeller
Risk Management Solutions: June - October 2016

I adapted the in-house European flood model to include the effects of climate change. My work took an event set of 50,000 years of stochastic rainfall data and came up with a novel reweighting method to be consistent with different IPCC climate change scenarios.

Graduate Researcher
Manchester University Press: June – October 2015

A short, funded research project through the University of Manchester's REALab scheme. Our team researched and wrote a report to brief directors on the changing landscape of digital humanities.