

Christopher Holmes

SENIOR DATA SCIENTIST

Exeter, Devon, United Kingdom

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*A professional, confident and highly driven Data Scientist with a strong passion for reproducible analytics and a keen eye for scientific rigour. **Expert R user.***

Key skill summary

HARD SKILLS

- 10+ years practical experience in varied analytical roles
- A keen eye for scientific rigour and robust statistical analysis
- Distilling tangible insight from large and complex data structures
- Data extraction, data wrangling, data cleaning/reduction, statistical modelling and data visualisation
- Creating reproducible and auditable analysis through literate programming
- Predictive modelling, supervised/unsupervised machine learning and model validation
- Authoring technical documents and communicating insight through written and verbal presentations
- Code-base version and source control

SOFT SKILLS

- Highly motivated self-starter
- Ability to independently learn, research and investigate solutions to problems from all available literature
- Critical thinker and avid problem solver - driven to find creative solutions to analytical problems
- Collaborative team player - strongly believe in free and open sharing of ideas and code
- Direct people management experience
- Personable and comfortable in both corporate and academic environments
- Excellent communicator (both written and verbal)

TOOLS

- R - expert user (both base and tidyverse). Author of several R packages
- Python - competent user
- SQL - Oracle, HIVE, Impala
- Hadoop HDFS HaaS
- Latex typesetting
- Rmarkdown, Jupyter literate programming
- Git, Gitlab, Github
- Linux

Professional experience

Openreach Ltd

Exeter, UK

SENIOR DATA SCIENTIST - SERVICE LAYER DYNAMICS

Apr 2017 - present

- Interrogating Openreach's varied data streams to perform advanced network analytics on large and complex data structures
- Designing, developing and putting into production, algorithms that identify opportunities to reduce network fault rates and increase engineer repair efficiency/effectiveness
- Building machine learning models to classify and predict network behaviour and diagnose network fault conditions
- Extensive use of R, Rmarkdown, SQL, HQL, Impala, Hadoop, HDFS and Oracle relational databases
- Data wrangling, data reduction, data visualisation and statistical analysis in order to combine and build insight from varied sources
- Delivering tangible business benefits across varied projects
- Working with senior stakeholders across Openreach (and BT research) to implement changes in production and track subsequent benefits
- Working with field engineers to develop model inputs and test predictive accuracy
- Technical report writing and communicating detailed analysis to senior management (both written and verbal)
- Engagement lead for the Service Layer Dynamics team - consistently driving very high engagement scores
- Designing and delivering multiple R training courses for new graduate intake and upskilling team members

Openreach Ltd

Exeter, UK

OPENREACH GRADUATE (BT GRADUATE SCHEME)

Sep 2015 - Apr 2017

- Role as described above but while on rotation through the Openreach (BT) graduate scheme
- Spending time on the road with field engineers - learning the workings of the network and the physical meaning behind the data available
- Learning advanced analytical techniques from subject matter experts across Openreach and BT
- Development of models targeting increases in network repair efficiency
- Successful completion of numerous personal development training courses as required by the BT graduate scheme

IMERYS minerals Ltd

NEW BUSINESS DEVELOPMENT - TECHNICAL PROJECT MANAGER

Cornwall, UK

Jun 2013 - Aug 2015

- Technical product development and project management
- Researching and developing new mineral products for a range of applications (mainly paper and packaging and printed electronics)
- Relationship building and contact generation
- People management - responsible for a small team of laboratory staff, delivering application support and internal new product development
- Working in conjunction with both existing and potential key customers (designing, interpreting and communicating technical output)
- Consolidating and reporting financial revenues on a monthly basis
- Writing patents, reviewing the IP landscape

IMERYS minerals Ltd

RESEARCH SCIENTIST

Cornwall, UK

Nov 2011 - Jun 2013

- Research scientist and application specialist for the Paper and Packaging business unit
- Coordinating and carrying out laboratory based experiments for internal new product development and sales support
- Visits to key customer sites across multiple geographies to present technical results and findings
- European, Global (Asia-Pacific and US) and internal project work

Parsons Brinckerhoff Ltd

GRADUATE TRANSPORT PLANNER

Exeter, UK

Sep 2007 - Feb 2008

- Using commercial software packages (including Saturn and LinSig) in order to simulate traffic distribution and traffic flow across complex road networks
- Attending meetings with local councillors and key stakeholders, presenting preliminary data and project results to large groups of professionals from different disciplines

Education

University of Exeter

DOCTOR OF PHILOSOPHY IN PHYSICS

Exeter, UK

Oct 2008 - Sep 2012

- Thesis: Surface Alignment Control of Nematodynamics
- Supervisor: Professor Roy Sambles FRS
- Industry-funded (Hewlett Packard) experimental PhD examining the response of flow aligning nematic liquid crystals to pressure-driven flow
- This research utilised different optical experimental techniques including laser-conoscopy, fully-leaky guided mode studies and machine-vision birefringent measurements.
- Findings were presented at several international conferences with results published in high-impact peer-reviewed journals
- Four years of research culminated in a completed PhD thesis and successful viva voce examination in September 2012

University of Exeter

1ST CLASS (HONS) MASTERS DEGREE IN PHYSICS [MPHYS]

Exeter, UK

Oct 2003 - Jun 2007

- Dissertation: Gold Nano-triangle Arrays towards Optical Biological Sensing
- Fabrication of metallic nano-triangle arrays and their optical characterisation by means of measuring localised surface plasmon resonance through optical spectroscopy
- 4th year major options: Fluid Dynamics, Mathematical methods

Ridgeway Secondary School

A LEVEL

Plymouth, UK

Sep 2001 - Jun 2003

- Maths (B), Physics (B), Information Technology (C)

Ridgeway Secondary School

GCSE

Plymouth, UK

Sep 1996 - Jun 2001

- Ten GCSEs grade A to B, including Maths (A), Science (A), English (A)

Additional information

INTERESTS

I am a keen amateur photographer, enjoying traditional black and white film developing and printing. I am also the drummer in a punk-rock band and enjoy surfing and running in my free time.

I have travelled certain parts of the world extensively and thrive on the opportunity to explore new places and meet new people.

GENERAL

I am an experienced driver and hold a full UK driving licence

I maintain a blog to record and share my personal coding projects and ideas, this can be found at christopherholmes.co.uk

REFEREES

Referee contact details are available on request