Robin Cole PhD

Nationality: British

Location: London

Physics PhD with a passion for solving problems using data and python. A lifelong learner, I am continually broadening my skillset and happy to cross disciplines. Not afraid to roll up my sleeves and get stuck into the engineering details, I will do what it takes to get my solutions into production. Big believer in the value of building a community and in the importance of communicating my work to a wider audience. Active contributor to open source, with particular passion for deep learning techniques applied to satellite & aerial imagery. Maintainer of the [satellite-image-deep-learning](#) repository with 5.3k stars & associated newsletter

Proficient in: python, pandas, scikit-learn & image, pytorch, openCV, boto3 (AWS)

WORK

Jan 2021 – Oct 2022   **Senior data scientist, [Satellite Vu](#)**

- First technical hire, working directly with the CTO at this foundational stage of the business
- Built the first generation data engineering pipeline on AWS comprising AWS lambda, batch & S3
- Developed machine & deep learning solutions for applications such as fire spread prediction & cloud detection
- Data science chapter lead and involved in hiring for our data science positions & building out the supporting infrastructure
- Worked with the product & sales teams to provide proof-of-concept solutions & establish technical requirements
- Deployment of deep learning models on AWS infrastructure
- Developed web UI for models using the Streamlit framework

Feb 2020 – Dec 2020   **Data engineer, [notonthehighstreet.com](#)**

- Developer on the data engineering platform for a website with millions of users
- Daily maintenance on the reporting & dashboard system used by the sales teams
- Daily tasks include writing Airflow pipelines, supporting and advising the analysts on the use of the Snowflake big data warehouse
- Collaborated with data scientists on improvements to the product recommendation engine & put their solution into production
- Participated in code reviews, daily standups, and agile methodology

Apr 2019 – Feb 2020   **Research and development, [BlockDox](#)**

- As this was a start up I was involved in almost all aspects of the business, from undertaking R&D for the core product, performing data science work, managing relationships with suppliers, representing the company at trade events, helping define the company strategy and roadmap, interviewing candidates for new roles.
- Refinement and deployment on edge devices of computer vision algorithm for anonymised people tracking using thermal cameras

Jul 2017 – Mar 2019   **Optical systems engineer, Surrey Satellite Technology Ltd**

- R&D and project management on a program to automate the alignment of space telescopes, in collaboration with Oxford University. The solution significantly sped up the manufacture of telescopes and de-risked the process
- Worked with software team to develop a geospatial cataloguing application with machine learning tagging of images prototyped

Sep 2014 – Jul 2017   **Medical physics, Royal Surrey County Hospital**

- Three year training program specialising in radiotherapy physics
- Prototyped automated solutions to routine clinical work using computer vision
- Undertook research at the National Physical Laboratory to perform statistical comparison of two dose calculation algorithms

Aug 2011 – Aug 2014   **Postdoctoral Research Associate, University of Queensland, Australia**

- Research into the use of graphene nanotechnology to enable ultra precise measurements of motion

- Computational modelling of nanoscale systems

May 2010 – Jul 2011   **Research scientist, Sharp Laboratories, Oxford**
- R&D role researching novel uses for blue laser diodes
- Outcome was patented technology for sterilising water using UV radiation

EDUCATION

2006 – 2010   **PhD Physics, University of Cambridge**
- Research into the optical properties of nanoscale metal structures
- Multiple high impact papers including in Nano Letters and Physical Review Letters
- Mostly lab based work, but also a sabbatical doing computational modelling

2014 – 2017   **MSc Medical Physics, Kings College London**
2004 – 2005   **MSc Optics and Photonics, Imperial College London**
2001 – 2004   **BSc Physics (1st Class), University of Southampton**

OPEN SOURCE AND COMMUNITY WORK

- Active on Github with over 8k stars on my repositories on Github
- Maintainer of the satellite-image-deep-learning repository with 5.3k stars and associated satellite-image-deep-learning group on LinkedIn with over 2.2k members. This has become a significant resource within this domain and I have established a reputation as an expert on this topic
- Maintainer of fire-detection-from-images which is a knowledge repository on the topic of fire detection with machine learning, has received 230 stars and a solution which is in use at a startup
- Invited speaker at PyData London events, with presentations on air quality monitoring and smart homes
- Have appeared on several podcasts, the impact of which was substantial inbound leads for the sales team

REFERENCES

Available upon request