STEPHEN RICHER

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OBJECTIVE

Python programmer and data scientist currently working with the NHS to build best practise analytical workflows and machine learning models to address health inequality. Seeking a full-time position in software engineering.

SKILLS

Programming Languages	Python (NumPy, Pandas, Scikit-learn), SQL, Git, Bash, C++, Java
Data Science	Supervised Machine Learning (Decision Trees, Regression), Tableu
Cloud Platforms	Microsoft Azure
Soft Skills	Communication, Critical Thinking, Problem Solving, Adaptability

EXPERIENCE

Data Scientist Intern Jun 2022 - Present
NHS England *London, U.K*

- Built and deployed an AutoML pipeline, implementing CatBoost and Logistic Regression, for predicting healthcare appointment non-attendance at regional NHS trusts. Available at: github.com/nhsx/dna-risk-predict
- Developed ETL data engineering pipelines for processing and aggregating healthcare and demographic data from multiple public source.
- Collaborated with NHS stakeholders and analysts to design and implement reproducible analytical workflows for studying healthcare inequalities.
- Utilised a variety of statistical approaches and hypothesis tests, including permutation testing and partial correlation, to robustly analyse complex and biased real-world healthcare data with numerous confounding variables.

Quantitative Research Scientist, Biology & Mathematics Oct 2018 - Jun 2022
University of Bath *Bath, U.K*

- Conducted independent research and developed novel computational tools to understand how the structure of DNA impacts cellular function.
- Developed HiCFlow, a user-friendly analytical workflow for conducting robust and reproducible bioinformatics analysis. Available at: github.com/StephenRicher/HiCFlow
- Supervised final-year undergraduate students completing projects in computational biology.
- Presented research at national and international conferences.
- Awarded best final-year PhD presentation at the Bath Departmental Research Day.

Research Software Engineering Coach Apr 2019 - Jun 2022
University of Bath, Doctoral College *Bath, U.K*

- Developed and delivered materials to train doctoral students in research software engineering best practises.
- Curriculum: Python programming and style (PEP8), version control, testing and continuous integration. Available at: github.com/Research-Software-Skills-Bath

Technical Support (IT Services) Oct 2017 - Sep 2018
University of Manchester, Hornet *Manchester, U.K*

- Provided IT support, education and security guidance for residential students.

Study Coordinator Oct 2016 - Jul 2017
MAC Clinical Research *Leeds, U.K*

- Oversaw a phase 3 clinical trial investigating a novel treatment for Alzheimers disease.

Clinical Trials Assistant Oct 2015 - Oct 2016
MAC Clinical Research *Leeds, U.K*

EDUCATION

PhD, Biology & Mathematics, University of Bath 2018 - 2022
Mathematical and bioinformatics-based tools to explore the impact of gene editing on the geometric principles governing the 3D structure of the genome.

MSc, Bioinformatics & Systems Biology (Distinction), University of Manchester 2017 - 2018

BSc, Biology (First), University of Bath 2011 - 2015

PROJECTS

Real World Data Validation with *validatum* Lightweight, user-friendly Python module to automatically detect and flag suspicious data inconsistencies and common data entry errors within real world data.
Available at: pypi.org/project/validatum

Secure Data Encryption with *datasafe*. Python based command-line utility for encryption of text files and encryption of Pandas DataFrames while preserving datatype.
Available at: pypi.org/project/datasafe

Data Science Best Practises - The Titanic Dataset. Wrote a popular Kaggle notebook, describing best practise approaches for performing supervised tabular classification using Scikit-learn.
Available at: Kaggle - Titanic Data Science