MILES MCGIBBON

Searching for a career in computational drug discovery

I am a consistently hard-working masters student with a real enthusiasm for the data-driven modelling aspects of bioinformatics. This is reflected in my current work, academic achievements, internship experience, publications and self-taught programming skills. I am enthusiastic about machine-learning as well as classical statistical approaches to predictive modelling, and am passionate about their potential to drive the discovery of novel therapeutics.

CONTACT INFO

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SKILLS

Programming Languages

• Python & R

• Proficient in Bash, PHP, SQL

• Learning Julia & GoLang

Technologies & Approaches

• Very comfortable with Linux environments & command-line tools

• Experienced with ML in Python using XGBoost, Tensorflow, Keras & PyTorch Lightning native APIs

• Experienced in git and GitHub

• Experience with LAMP stack development

• Proficient with PyMOL, AutoDock, RDKit & OpenBabel

🎓 EDUCATION

2021 | 2022

The University of Edinburgh
MSc in Bioinformatics (Currently Studying)

Thesis: Modelling and predicting miRNA-mRNA interactions for *Asklepios Biopharmaceutical*

2017 | 2021

The University of Edinburgh
First Class BSc (Hons) in Biological Sciences (Biochemistry)

Dissertation: XGBScore: A Gradient Boosted Decision Tree Scoring Function for Structure Based Virtual Screening

🖋 RESEARCH EXPERIENCE

2022 | Present

Co-Founder SMVDGroup Research Group
SMVDGroup   📍 The University of Edinburgh

• Research collaboration with Dr Douglas Houston & Dr Vincent Blay focusing on applying advanced machine learning techniques to improve outcomes in computational drug discovery campaigns.

• Recently produced a novel scoring function (SCORCH) based on a consensus of machine learning classifiers which we are entering in CACHE 2022 round 2.

• Working on producing a docking-free pipeline using ligand chemical fingerprints and 3D protein receptor point clouds.

Jun 2020 | Sep 2020

COVID-19 Data Analysis Intern
EpiGroup   📍 The Usher Institute, The University of Edinburgh

• Data analysis, data visualization and statistics using Python & R on multiple COVID-19 projects the WHO and the UK Government.

• Oversaw the design & population of a dataset of COVID-19 mitigation measures in Africa using Python data analysis tools and custom web scraping scripts.

• Produced a weekly report in R on COVID-19 in the WHO AFRO area for the Tackling Infections to Benefit Africa (TIBA) COVID-19 Pandemic Response Unit.

💼 PROFESSIONAL EXPERIENCE

2022 | Present

Freelance Machine Learning Engineer
Fiverr   📍 Fiverr
- Worked on projects through Fiverr building and deploying custom machine learning models.
- 100% five star reviews, completed projects with Tensorflow, PyTorch, Streamlit, XGBoost, Jupyter-labs/Jupyter-notebooks.

Sep 2019 | Jan 2020

Freelance Spreadsheet Design
Surrey and Sussex Cancer Alliance   📍 Guildford
- Contracted to design a data collection spreadsheet for the Specialist Skin Multidisciplinary Team (MDT) in standard format for statistical analysis and discussion.
- Its introduction has reduced meeting times by over an hour; it is being trialed with a view to nationwide NHS usage for skin cancer data collection.

📄 PUBLICATIONS AND WORK

2022

SCORCH: Improving virtual screening with a consensus of machine learning classifiers, data augmentation, and uncertainty estimation
Journal of Advanced Research (Currently under review)
McGibbon, M., Money-Kyrle, S., Blay, V., Houston, D.

2021

Predictors of COVID-19 epidemics in countries of the World Health Organization African Region
Nature Medicine volume 27, pages 2041–2047 (2021)

Zhang, F., Karamagi, H., Nsenga, N., Nanyunja, M., Karinja, M., Amanfo, S., Chase-Topping, M., Calder-Gerver, G., **McGibbon, M.**, Huber, A., Wagner-Gamble, T., Guo, C., Haynes, S., Morrison, A., Ferguson, M., Awandare, G., Mutapi, F., Yoti, Z., Cabore, J., Moeti, M. and Woolhouse, M., 2021.

🎗 ACADEMIC ACHIEVEMENTS

2020-2021

Assessments Chosen as Model 1st Class Answers
The University of Edinburgh
- Immunology 3 2020   • Biochemical Techniques 2021

2020

Winner - School of Biological Sciences External Engagement and Impact Award
The University of Edinburgh

💼 GENERAL EMPLOYMENT

Jul 2021 – Sep 2021

Front of House/Bar Staff

The Red Lion Inn 📍 Shamley Green

Duties were waiting tables, working behind the bar and closing the bar/restaurant. This position required multitasking and working under pressure whilst maintaining attention to detail and a professional manner.

Jul 2019 – Sep 2019

Temporary Bank Admin/Secretary

Royal Surrey County Hospital 📍 Guildford

Duties involved handling patient referrals and office duties combined with filing patient letters/scans. These duties required accuracy under time pressure and attention to detail.

Dec 2016 – Apr 2017

Ski Instructor

Adrenaline École De Ski 📍 Switzerland

Duties involved independently organising lessons, working in and adapting to difficult situations with stressed/scared adults and children, clearly communicating instructions in French and English, teaching and risk assessment.

Jul – Sep 2016, 2017, 2018

Sales Assistant

Budgens/Esso Garage 📍 Bramley

Duties involved working with a Point of Sale (POS) system, stacking shelves and cleaning, opening and locking up the shop, and counting/closing the POS/Till.

ABOUT ME

My Interests

• Tennis is a passion of mine, and I gained my LTA Level 1 Tennis Coaching qualification in 2014 before working briefly as a coaching assistant later that year.

• I also am a keen freeride and race skier, and a qualified New Zealand Ski Instructor Association Level 1 ski instructor. I am a conversational French speaker, having taken the subject at GCSE and A-Level, and from ski instructing in Switzerland for five months in winter 2016/17.

• More recently I have focused on Triathlon, and am a 2019 Staffordshire Half-Ironman finisher, having raised over £1000 for Brain Tumour Research UK. In addition to the fitness side of the sport, I love the technical aspects of Triathlon and built my triathlon bike from second-hand parts over lockdown in March 2020.

• Alongside my academics, I have a passion project identifying statistical predictors of sports results in UK football and flat horse racing.