

Iain McLaughlan

PUBLIC HEALTH SCOTLAND · PHYSICS GRADUATE · RYA SCOTLAND LASER PERFORMANCE TEAM HEAD COACH · RYA SCOTLAND LASER ACADEMY PROGRAMME HEAD COACH

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Summary

I am a motivated individual who seeks performance in all aspects of my life. Whether that be in work, looking to refine, optimise, and improve; in coaching where I work to produce the highest performing sailors in the country; or in sport (sailing) where I consistently look for the next edge that will make us faster and better.

I am a Healthcare scientist (epidemiologist) working for Public Health Scotland, where on top of my scientific role I play a large part in the real time data and analytics providing information and guidance relating to the COVID-19 vaccination effectiveness program.

With this and other projects, I use and have experience of a range of tech including Python, R, and C. My skill using these tools allows for fast development of performant solutions to many problems.

I am seeking a position that will provide challenging opportunities to use and develop my skills to solve new problems. This role will allow me to use leading edge technology and methodology to improve, adapt, and overcome.

Skills

Programming

Python, R, Django (python web framework), R Shiny (R web framework), Markdown / Rmarkdown, LaTeX, C, Business Objects, Tableau, SQL.

Data management

Database design and management, analysis and presentation to a range of audiences.

Electronics

Developed many small projects combining coding and hardware using Arduino, Raspberry Pi, and breadboard circuitry.

Employment

Healthcare Scientist (Epidemiologist)

UK, Scotland

PUBLIC HEALTH SCOTLAND

Mar 2021 - Present

In this role, I help PHS to better understand COVID-19 vaccine failure events as well as analysing vaccine effectiveness.

One of my main tasks is to produce and maintain regularly published work. This includes output for the general public, health board chief executives, and other management reports. This involves collaborating closely with the data manager in the team to extract data from a range of datasets, join and mutate the data into a form that can be used for publication. With this formatted, I then analyse the data and produce visualisations that best fit the public health messages arising from the analysis. These outputs are then usually formatted into an Rmarkdown document which can be used by all members of our team to produce up to data analyses. With these reports I provide analytical and scientific interpretation to the data, helping the consumer to better understand what is being presented.

Recently I have been the lead in moving and advancing our public-facing publication process by producing an interactive R shiny dashboard to display data, analysis, and scientific interpretation. This will not only improve the end product received by the public as they will have more freedom to interact with the data but will also help the team as a whole in answering freedom of information requests as raw data will be more readily available.

I also give regular produce and occasionally present presentations to health board chief executives and senior clinicians along with others to help inform them as to the latest outbreak, case, hospitalisation, and death information related to COVID-19. This involves pulling together information from various sources to provide a relevant description of how the vaccine is affecting COVID-19 related events within care homes. I also provide detailed and evidenced input to the discussion following presentations as to what actions should be taken.

I have also contributed and co-authored peer-reviewed publication produced within our team collaboration with academic colleagues. This publication characterising COVID-19 related deaths in Scotland.

While working in this role I have also provided training to other colleagues within Public Health Scotland. I help to deliver the 'Introduction to git' training course. For this, I work with a team of trainers to help develop the overall course that is being delivered, then with one other deliver the course to a group of 8 participants where we cover the basics of git and that form of version control. Following the course, we hold questions and feedback sessions where we help to answer people's questions.

Information Analyst

PUBLIC HEALTH SCOTLAND

UK, Edinburgh

Nov 2019 - Mar 2021

Accident and Emergency

I produced weekly, monthly and annual publications for the A&E team which are presented to a range of different people from the Scottish Government to the general public and media. I had responsibilities in producing new reports and answering information requests. This involves having to balance delivering against a number of on-going, often requested in quick succession and with different level of urgency. I had to understand the importance of each and prioritise work and negotiate deadlines. I also developed on the work of others and update previous requests to fit new demands.

Drug and Alcohol Treatment Waiting Times

I produce monthly management reports as well as quarterly and annual publications where I had to understand the publication process carried out within PHS. I also worked on developing the new Drug and Alcohol System DAISy. Here I had been part of focus groups determining what functionality is best needed for the system from both a data collection and an analytical point of view. I developed the Open Data publication for the DATWT team.

System Watch

I work with other analysts to produce daily data that provides boards and management with very up to date data and insights into the pressures in the health care system. Some of this data is shared amongst other PHS teams including HPS COVID teams. I am currently working on developing this system through testing to improve the robustness of the system with time.

Laser Performance Team Head Coach

RYA SCOTLAND

UK, Scotland

2017 - Present

I organise and deliver coaching sessions to the top youth (u21) sailors in Scotland. This involves communication with governing bodies, host venues and participants to organise each session. Each year I work with the sailors in the team to plan out a training program to allow them to perform at their best in the coming season and future careers. I have to work with them to set goals, plan for contingencies, and evaluate success at all points throughout their journeys.

Within this role, I have coached four UK national championship medallists with one of my sailors this year being invited to be part of the UK's senior Olympic pathway program.

Laser Class Academy Head Coach

RYA SCOTLAND

UK, Scotland

2018 - Present

In this role, I organise, plan and deliver open training to sailor across Scotland. I have to liaise with host venues as well as communicating with the governing body and participants to organise training sessions. I lead a team of assistant coaches that I work with throughout the year. I have the responsibility for mentoring and helping these coaches develop their own coaching abilities. We hold a regular community of practice sessions with other coaches to share our experiences and develop our own abilities. I have taken a lead role in the set up and organisation of these continued professional development sessions.

I have also had the responsibility of working with the national governing body to produce COVID secure working guidelines to allow for our safe return to providing on the water coaching sessions.

Additional experience

Bike Theft Prevention Group

BIKE THEFT PREVENTION GROUP

UK

Jul 2020 - Present

Over the last few months I have been taking an active roll in a community project looking to make it harder for bike thieves to sell stolen bikes. This project is still on going, but, aims to use image and text recognition to match images of stolen bikes with those posted on popular online market places. I am currently taking a leading roll in the web application side of the project before flipping over to the image and text recognition side. We are using Deno and MongoDB on the back end and Svelte to develop the front end. We are working in a loose Agile framework using communication tools including Slack and Trello to track progress and share ideas.

Physics Undergraduate Student

THE UNIVERSITY OF EDINBURGH

UK, Edinburgh

2015 - 2019

While studying at the University of Edinburgh I have taken a range of courses resulting in the following skills:

- Computing and Data Analysis.
- Problem Solving.
- Independent Learning
- Critical Thinking.

During my degree, I have been exposed to a wide range of experiences that have expanded my knowledge and skill base, including:

- Mathematical skills, from courses such as: Dynamics and Vector Calculus, Fourier Analysis and Statistics, Algebra and Calculus in preparation for courses in Quantum Physics and Electromagnetism.
- Being part of a project team to develop a quantum computer simulation in Python.
- Using *ScikitLearn* to set up a machine learning weather prediction system.
- and one of my final year projects compared different methods that could be used to estimate the redshifts of galaxies that involved in-depth research to gain an understanding of the different methods; machine learning for some methods to gain a working understanding of the methods employed; data analysis to support quantitative and qualitative interrogation of the results and report writing.

Estimating Galaxy Redshifts using Random Forests

UK, Edinburgh

UNIVERSITY OF EDINBURGH

Jan 2019 - May 2019

As a final year project I performed an analytic comparison of different methods for estimating the redshifts of distant galaxies. This compared different machine learning methods such as *Random Forests* and *Self Organising Maps* along with more classic template fitting methods. The data was collected making use of *SQL Databases* and analysed with python code making use of *Numpy* and *Pandas*. With the outputs being visualised with a mix of *Matplotlib* and *Gnuplot*.

Quantum Computing Project

UK, Edinburgh

UNIVERSITY OF EDINBURGH

Jan 2019 - May 2019

Construction of a quantum computer simulator from scratch, which simulates the quantum phenomena found in quantum computers on a classical system using linear algebra to represent the effects. The performance of this was analysed through simulating many tests and statistical comparisons were made to expected results. For collaborative work *GitHub* was used for version control, allowing for better work planning and time management.

Education

B.Sc.(Hons) in Physics

UK, Edinburgh

THE UNIVERSITY OF EDINBURGH

2015 - 2019

- Achieved a B.Sc.(Hons) 2:1 degree.

SQA Qualifications

UK, Renfrewshire

GRYFFE HIGH SCHOOL

2009 - 2015

- Advanced Higher: Maths A, Physics B, Chemistry B.
- Higher: Maths A, Physics A, Chemistry A, Biology A, History A.
- Standard Grade/Intermediate 2: 7 1s & 1 A.

Extracurricular Activity

Sailing Exercises Website

UK, Edinburgh

SAILINGEXERCISES.CO.UK

2020 - Present

To help organise coaching ideas helping myself and other sailing coaches I developed a website using the Django python web framework. This site acts as a collaborative database to store and find different sailing exercises that can be searched for inspiration based on criteria such as time availability, number of participants, etc. The site has its back end developed in python with the front end built using Javascript (and Typescript), HTML5 and CSS3. The site is deployed using Digital Ocean running a PostgreSQL database. The site has various flourish add ons such as using crontab to post updates and most recent posts to Twitter daily.

Performance Sailing Experience

International

ATHLETE

2007 - Present

I am a sailor who competes in many different types of sailing boats, in races both nationally and internationally. In the time that I have been racing, I have become a World, European, British and Scottish champion. This has happened mainly in the J111 class of sailing yacht where I competed as part of a team of 8 on the boat, and in the Laser which is a one-person sailing dinghy. As part of my progression through the sport, I have been part of several performance programmes:

- UK U21 Youth squad.
- Scottish U19 Squad.
- The University of Edinburgh Individual Performance Programme.
- Supported by the Scottish Institute of Sport.

Being part of these programmes and working with the people in them is what has allowed me to achieve the success that I have. These experiences taught me how to achieve high-level targets through performance thinking and goal setting. These are skills which I apply in other areas of my life to help achieve targets. An important skill that I have developed while taking part in all of these sailing activities is time management. I have had to plan my training alongside other work, such as school and university, to be able to balance top-level sport with my education.

Google Hash Code

Edinburgh

PARTICIPANT

2018, 2019 & 2020

- Developed problem solving skills under pressure with a time limit.
- Working on team coding challenges in small groups.

Hacktoberfest, DigitalOcean

Edinburgh

PARTICIPANT

2018, 2019 & 2020

- Had my first real experience contributing to open-source projects.
- Learned the basics of GitHub to allow me to help contribute to other peoples work.

Code Jam, Google

PARTICIPANT

Edinburgh

2019 & 2020

Competitive programming working with a range of different algorithms to solve challenging problems against the clock.

Writing

Characteristics and risk of COVID-19-related death in fully vaccinated people in Scotland

The Lancet

CO-AUTHOR

Oct 2021

Assisted in data collection, preparation, data analysis, and proof reading content and messaging.

Achievements

2019	Blues , Edinburgh University Sports Union	<i>UK, Edinburgh</i>
2019	2nd , British University Championship Sports (BUCS) Yachting Championship	<i>UK, Southampton</i>
2018	3rd , British University Championship Sports (BUCS) Yachting Championship	<i>UK, Southampton</i>
2016	Winner , Garmin J111 World Championship	<i>UK, Cowes</i>
2016	Winner , J111 European Championship	<i>UK, Cowes</i>
2016	Class winner, 19th overall , J111 European Championship	<i>UK, Cowes</i>
2015	3rd , British University Championship Sports (BUCS) Fleet Racing Championship	<i>UK, Cardiff</i>
2014	6th U17 , Laser Radial European Championship	<i>Croatia, Split</i>