Stephen Charles

Overview

Portfolio
DataCamp
GitHub

Proficient *pythonista* with a background in mathematics and computer science. Particular expertise in managing software pipelines and large data sets involving time series analysis and machine learning algorithms, in addition to interpersonal skills from a range of hospitality roles.

Employment

2022 – Now **Innovative Technologies** – *Manchester*
Position ***Machine Learning Engineer***
Stack *Python, Pytorch, Keras, Tensorflow, Numpy, Pandas, Sklearn, Git, Bash*
Duties
- ICU performs accurate age verification to automate the policy and allow access to age restricted purchases and premises.
- With AI algorithms developed over many years, ICU offers an accurate (99.88%) precise and affordable facial recognition system.

2019 – 2020 **Facebook** – *London - Remote*
Position ***Data Scientist, Analytics Intern***
Stack *Tableau, SQL, Python*
Duties
- Performed large-scale data analysis to extract useful business insights.
- Identified the ones which were actionable, suggesting recommendations, and influenced the direction of the business by communicating the results to cross-functional groups.
- Classified leads so that the team could work on the most valuable cases, and suggested improvements in the tools and techniques to help scale the team.

Education

2021 – 2022 **Data Science**, *University of Bath*
MSc Master of Computer Science
Stack *Python, SQL, Pytorch, Keras, Tensorflow, Numpy, Pandas, Sklearn, Matplotlib, Seaborn*
Research Signal processing in neuroscience applications using state-of-the-art statistical machine learning techniques. Specifically, multi-sensory time-series signals are collected and modelled under a Bayesian framework. Techniques such as Gaussian processes, recurrent neural networks and probabilistic sampling methods are used to perform parameter estimation, decision making, and uncertainty quantification.

2020 – 2021 **Astronomy and Astrophysics**, *University of Manchester*
MSc *Distinction*, Master of Physics
Stack *Python, Numpy, Pandas, Sklearn, Matplotlib, Seaborn, Git, Bash*
Research Published a program to facilitate the data acquisition and analysis pipeline for TESS automatically, dubbed `firefly`, which applies nested sampling (`dynesty`) to find best fit variables (`TransitFit`) between the host star and exoplanet.

2016 – 2020 **Mathematics with Computer Science**, *University of Nottingham*
MMath *Upper Second-Class Honours*, Master of Mathematics
Stack *C++, Python, R, Numpy, Pandas, Matplotlib, Seaborn*
Research Dissertation involved working with python to numerically solve spherical cavitation bubble collapse.

2014 – 2016 **Space Engineering**, *Loughborough College*
A-Levels *Mathematics* A* · *Further Mathematics* A · *Physics* A · *Engineering* A
A specialised course focused on Engineering with guest lectures at the Space Centre in Leicester.

General Tech Stack

Language Python, C++, LaTeX, SQL
Packages Numpy, Pandas, SciPy, AstroPy
ML Packages Sklearn, Tensorflow, PyTorch
Web HTML, Markdown, CSS
Scientific Matlab, R, Fortran, Mathematica
Software Microsoft Office, Tableau, Blender
Systems Linux, Windows, Mac

Awards and Qualifications

2022 DataCamp: Data Science Track
2021 Kaggle Expert
2020 Tableau Desktop Specialist
2016 Full UK Driving Licence
2015 Grade 8 Violin

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Publications

Author -

Co-Author Hayes, J J C, E Kerins, J S Morgan et al. (2021) "`TransitFit`: an exoplanet transit fitting package for multi-telescope datasets and its application to WASP-127 b, WASP-91 b, and WASP-126 b", 1–14.

Academic Work Experience

Autumn 2018 **The University of Singapore**

Experience Obtained a scholarship to study a crash course in Korean language for 5 weeks and to learn about the culture and history of the changing landscapes of Singapore. Upon completion, applied to spend the Autumn semester here successfully.

July 2014 **Space Research Centre, The University of Leicester**

Experience During my first college year I gained work experience at the University of Leicester Space Research Centre, assisting in the development of an astrobiology rock-sampling tool called SPLIT for use on Mars.

Positions and Responsibilities

2018 - 2019 **Mature Student Mentor, UoN**
I was a point of contact for mature students, helping them settle in and be there is a support capacity.

2017 - 2018 **Ambassador, UoN**
I presented, and gave advice to prospective students.

Public Speaking

2017 **Department of Physics, The University of Nottingham**
Gave introductions to guest speakers and shout outs in lectures to ensure everyone is informed of important events.

2014 **Space Research Centre, The University of Leicester**
Presented my findings to a crowd of 50 post doc students and an astronaut! My presentation was based on exoplanet research and the feasibility of alien civilizations to be space faring.

Volunteering

2017 **Magical Maths** – *Nottingham*

Role Organisation of weekly sessions to promote mathematics to primary school children, in line with the national curriculum.

2016 **Workaway** – *Ghana*

Role I volunteered at a remote school in Africa for a turn of 2 months, to teach those with no access to maths the fundamentals. I managed to organise a bus to take everyone attending to places of historic interest, and demonstrate how the maths they had learned in the classroom has real impact and use to the world around them.

Interests

Photography Avid adventurer and keen astronomer. This hobby pushes the boundaries of my interest in both.

Hiking Surviving extreme conditions makes me feel alive.

Music Self taught Guitar, Piano, Violin.

General Science fiction and anything spacey.

References

References can be supplied on request.

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