Daniel Simpson

simpson.danielb@gmail.com London, NW4 1DJ +44 (0)7384 015 147

PROFILE

Data mentor and coach for clients across multiple industries, helping develop their workforce to produce business driven data insights. Graduate of MSc Data Science programme with distinction and an undergraduate degree in mathematics. Strong interest in all aspects of data science from data visualisation to machine learning. Previous experience working in scientific research and as a mathematics, statistics and data science educator. Looking to transition into a large data-driven company to leverage and develop existing skills in statistical modelling and machine learning to make a valued contribution to the business.

KEY SKILLS

- Computer programming in Python, R, MATLAB and SQL languages.
- Additional experience using C++, JavaScript, HTML, CSS, Java, Git, Google Cloud Platform, Azure and AWS.
- Strong experience using specific packages such as Pandas, NumPy, Statsmodels, Scikit-Learn, Keras, TensorFlow, PyTorch, Matplotlib, Seaborn, Plotly, Dash, GeoPandas, SciPy, BeautifulSoup and Selenium.

EDUCATION

Birkbeck, University of London: October 2020
Master of Science in Data Science - **Distinction**
Modules:

- Principles of Programming (Python)
- Big Data Analytics using R
- Computer Systems
- Data Science Techniques and Applications
- Information Systems
- Programming with Data (Python & SQL)
- Fundamentals of Computing
- Machine Learning

Dissertation: Deep learning techniques applied to time-series analysis for stock price predictions. LSTM neural networks were used for modelling and evolutionary algorithms were used as an optimization technique.

West Virginia University: May 2013
Bachelor of Science in Mathematics
Recipient of The PROMISE Scholarship – merit-based financial aid providing full cost of tuition and fees.

DATA SCIENCE PROJECTS

Portfolio Website - https://danielbsimpson.github.io/

Covid-19 Dashboard

- Designed and created a dashboard app to track covid-19 within the United States.
- Worked with a university supervisor to collect data and calculate the r-rate within each county of the United States.
- Data preparation was done in Pandas and r-rate calculations were performed using the EpiEstim library within R.
- Dashboard created using Dash and Plotly, with the final dashboard deployed with Google Cloud Platform.

Life Expectancy Inference from Global Metrics with OLS

- Taking over 37 different features from countries around the world, the OLS stats model was used to infer the main contributing factors for life expectancy globally.
- OLS summary statistics helped drive the process by identifying statistically insignificant features with high p-values while monitoring the r-squared value to ensure model performance.
- Multiple methods were explored such as including polynomial features and running Lasso and Ridge regressions while observing the residual space to observe performance of the various models.
- Statsmodels and sklearn were used for modelling, pandas and numpy were used for data manipulation and matplotlib, searborn and yellowbrick were used for visualisations.

Facial Recognition and Mask Detection

- Developed a deep neural network to identify whether individuals in an image are wearing a face mask or not.
- Data was sourced from a data repository on Kaggle containing over 4000 images.
- OpenCV was used for facial detection, utilising Haar Cascade and Caffe methods.
- Keras and ImageNet were used to build the convolutional neural network for face mask recognition.
- Matplotlib was used to display the new image containing labelled boxes around individual faces, identifying whether the individual is wearing a face covering or not.

CAREER HISTORY

Decoded, London, *Senior Data Mentor* **May 2021 to Present**

- Working with clients such as UBS and TJX who wish to upskill their staff with python and SQL.
- Coaching staff of all levels who want to acquire data science skills within the financial and retail sectors.
- Guiding learners to develop robust and impactful data science projects for their organisation.
- Mentoring learners on best approaches for applications of data science within their industry.
- Developed automation tools internally to improve business communication with clients.
- Collaborating with the Product team to develop learner facing content on high-level data techniques.

Bryant High School, Virginia, *Mathematics Teacher* **August 2016 to August 2019**

- Collected, cleaned, and presented student data directly to the principal quarterly.
- Designed Python projects focused on applied mathematics and programming basics.
- Managed an instructional assistant to help the classroom environment run smoothly.
- Presented and explained mathematical and statistical concepts to a wide variety of learners.
- Consistently met deadlines set by the county for student knowledge and lesson plan delivery.
- Nominated for *Outstanding New Teacher* Award 2018.

ARP, Virginia, *Bartender and Server* **May 2016 to August 2019**

- Worked within a small team environment daily.
- Frequently communicated valuable information to management and staff.
- Led small teams during private events to ensure guest satisfaction.
- Developed personal and professional relationships with patrons and staff alike.

The Learning Network, Surat Thani, Thailand, *Mathematics & Science Teacher* **April 2015 to April 2016**

- Explained mathematical and scientific concepts to young learners.
- Developed lesson plans for large groups of students who were learning English as a second language.
- Curated year-long projects with students designed as extracurricular activities for all age groups.

Bryant ALC, Virginia, *Instructional Assistant* **August 2013 to August 2014**

- Assisting in lesson plan delivery in the mathematics and biology classrooms.
- Helped manage large groups of problematic students to ensure a frictionless learning experience.
- Oversaw small group instruction for gifted learners.
- Provided one-on-one sessions for students of all levels.

West Virginia University, West Virginia, *Research Assistant* **May 2010 to May 2013**

- Cleaned, processed, and analysed large amounts of data on proteins, modelling biological processes using Excel and MATLAB.
- Worked as part of a research team within a medical lab, focused on collecting data using flow cytometry techniques.
- Tracked various information surrounding the team's work, using Microsoft Office products for reporting purposes.