

# Daniel Simpson

[simpson.danielb@gmail.com](mailto:simpson.danielb@gmail.com)

London, NW4 1DJ

+44 (0)7384 015 147

---

## PROFILE

Experienced Data Scientist at a global retailer, specializing in leveraging advanced analytics to drive business insights and decision-making. Adept at using PowerBI, DataBricks, and Snowflake to develop and implement a wide range of data-driven projects, including CLTV Models, Churn Models, and Omnichannel Propensity Models. Skilled in building NLP pipelines for comments ingestion, creating MLDevOps dashboards, and conducting complex analyses such as customer segmentation and survival analysis. With a background in scientific research and education in mathematics, statistics, and data science, I am passionate about utilizing statistical modeling and machine learning to contribute to a data-driven organization's success. Eager to further enhance my expertise and make impactful contributions through innovative data solutions.

---

## KEY SKILLS

- Computer programming in Python, SQL, R, and MATLAB languages.
  - Additional experience using C++, JavaScript, HTML, CSS, Java, Git, Google Cloud Platform, Azure and AWS.
  - Strong experience using DataBricks, Snowflake and PowerBI.
- 

## 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 product deployed using 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 the performance of the various models.
  - Statsmodels and sklearn were used for modelling, pandas and NumPy were used for data manipulation and matplotlib, seaborn 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**

**TJX Europe, London, *Data Scientist***

**Jan 2023 to Present**

- Working on the customer insights team to analyze and build models focused on understanding the customer base.
  - Working with a wide range of teams to implement predictive models for better business decision making.
  - Leveraging various tools like Snowflake, Databricks and PowerBI for creating and monitoring large data pipelines.
  - Working with outside vendors to test their cutting edge technologies for potential business value.
  - Creating numerous proof of concept projects for research and development within the company.
  - Mentoring various members of the team to upskill and develop across a wide range of skills and technologies.
- 

**Decoded, London, *Senior Data Mentor***

**May 2021 to Dec 2022**

- Developing modules for the data apprenticeship and commercial curriculum offerings.
  - Coaching employees 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 the best approaches for applications of data science within their industry.
  - Developed automation tools internally to improve business communication with clients.
  - Running a learner help desk to address all technical questions related to work-based data-driven projects.
- 

**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.