Daniel Simpson

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PROFILE

Graduate of MSc Data Science programme with Distinction. Strong interest in all aspects of data science from data visualisation to machine learning. Undergraduate degree in Mathematics. Previous experience working in scientific research and as a mathematics teacher. Looking to transition into a career in Data Science at a data-driven company to leverage and develop existing skills and 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 Scikit-Learn, Keras, TensorFlow, PyTorch, Pandas, Matplotlib, Plotly, Dash, Seaborn, GeoPandas, SciPy, BeautifulSoup and NumPy.

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 Tracking Application

- Designed and created an app to track covid-19 within the United States.
- Worked with 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 website hosted on Google Cloud Platform.

Identifying Commercial Business Opportunities in London

- The similarity between London boroughs was identified using publicly sourced data and k-means clustering algorithm, allowing for an analysis of potential business venue opportunities within London.
- Data was pulled from the internet using BeautifulSoup and the FourSquare API while Pandas was utilised for cleaning and processing of the data.
- The model building utilised the Scikit-learn library and visuals for the final presentation used Matplotlib and Folium libraries.

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**

- One-to-one support for Decoded's clients who are upskilling their staff in the field of data science.
- Mentoring and coaching staff on all levels who want to upskill or acquire data science skills.
- Guiding learners across various industries to develop robust and impactful data science projects for their business.
- Collaborating with the Product team to develop learner facing content on high-level data techniques.
- Working with the Technology team to develop automation projects to improve internal processes.

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.