**James Manson**

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# PERSONAL PROFILE

As a recent graduate with a first class honours Masters in Mathematics, I have experience in mathematical modelling, and am skilled in statistics, problem solving, statistical modelling, and programming. I am motivated to apply my mathematical knowledge to real world data-related scenarios- with my fourth-year project aiming to provide insight into multiple sclerosis (MS). High levels of diligence and resilience have enabled me to work successfully, both independently and in diverse teams. Excellent communication skills and a strong work ethic have allowed me to form and maintain professional relationships, resulting in me returning to the same employer for two consecutive summers.

# EDUCATION

## First Class Masters of Mathematics (MMath) degree at University of Exeter (2016 – 2020)

* Averaged 77% in Mathematics degree (first class honours).
* Areas of study included: Machine Learning (99%), Computational Nonlinear Dynamics (96%), Numerics and Optimisation (87%), Statistics (80%), Statistical Modelling (69%), Mathematical

Theory of Option Pricing (86%), Statistical Modelling in Space and Time (76%)

## Oxted School, Surrey (2009 – 2016)

* AAA at A level in Physics, Mathematics and Further Mathematics
* B at AS level in Economics
* 8 A\*s and 3 As at GCSE

# PROJECTS

* **Final year research project: Bifurcation analysis of oscillations in a self-coupled neuron with delay** – computationally modelling the effects of demyelination on electrical excitability in neurons- for insight into diseases such as multiple sclerosis (MS). The MATLAB model was compared to experimental data. I collaborated with international academics and published a peer-reviewed paper ‘Robust spike timing in an excitable cell with delayed feedback’ in The Journal of the Royal Society Interface.
* **Various machine learning projects** – Achieved a mark of 99 for machine learning projects in Python, where I compared the performance of reinforcement learning methods at solving grid world games, implemented a non-linear support vector machine (SVM) and compared the performance of ensemble methods on classifying images of hand-written digits.
* **Computationally modelling nonlinear dynamics**– Achieved marks of 97 and 95 for projects investigating and modelling pendulum dynamics and oscillatory behaviours in excitable neurons in MATLAB.

# SKILLS

• Advanced knowledge of **MATLAB**

## • Intermediate knowledge of Python (sklearn, Numpy, Scipy, Matplotlib, pandas), Word, PowerPoint, Excel, and LaTeX

* Basic knowledge of **R** and **SQL**
* Teamwork, time management, customer service, problem solving, and presenting

# WORK EXPERIENCE

## Accounts Assistant at TClarke (Summer 2018 & 2019)

* Responsibilities included writing and sending payment applications, invoices and certificates as well as communicating assertively in a professional manner to large companies, including ITV and Google.
* Attention to detail was important when inputting large values into systems to create invoices.
* Promoted and engaged in dialogue with team members to ensure completion of work to tight deadlines.
* Abilities were noted by members of management, who encouraged me to return the following year.

**Supermarket Assistant at Waitrose (2014 – 2015)**

* Customer service, stock control, client-facing engagement.

**Finance Assistant at TUI Travel PLC (2013)**

* Responsibilities included assisting with general finance and administration tasks.

# ACHIEVEMENTS

* **Dean’s commendation award –** Received a Dean’s commendationfor outstanding achievement in the 4th year of my degree.
* **Atholl Cup for Academic Excellence –** Achieved the highest attainment at GCSE in my year of over 300 students.

# INTERESTS AND HOBBIES

* **Football** – Played football competitively for 5 years, alongside playing Futsal. Played 6-a-side football in a competitive league at university.
* **Travel** – Travelled extensively in Europe in summer 2017, across various countries.
* **Coding** – Have self-taught python to an intermediate level and partake in coding challenges.
* Other interests and hobbies include technology and cricket.

References are available upon request.