

SKILLS

COMPUTER SKILLS

- Microsoft Suite, Git/Github, Jupyter Notebooks, Linux, OO Programming, Software testing(inc. Unit Testing), LaTeX

CODING

- Python, C++, R, Octave, MATLAB, HTML, CSS, SQL
- *Python Libraries:* Tkinter, Numpy, Pandas, Matplotlib, Seaborn, Scikit-Learn, and Tensorflow

MACHINE LEARNING

- Linear & Logistic Regression, Neural Networks, Support Vector Machines, K-Means, PCA, Anomaly detection, Hidden Markov Models and Random Forests

LANGUAGES

- English (Native) , Hindi (Native) , Punjabi (Native)

PROJECTS

MSC DISSERTATION

Hidden Markov Models for Rain Simulation

[Code on Github](#)

Graded: 91%

Given Departmental award for outstanding project

- Improved performance of existing fitting techniques through translating code to C++ and applying mathematical and computational optimisations
- Made adjustments to existing model and introduced a novel approach to fitting
- Through testing, demonstrated with new approach, HMMs show promise for rainfall simulation

PIXEL ADVENTURE

Python Game Development using Tkinter

[Code on Github](#)

Graded: 93%

- Developed OO Programming skills by creating and following a UML Diagram
- Improved understanding of Testing by completing thorough testing at multiple stages

EDUCATION

UNIVERSITY OF BATH

Doctor of Philosophy: PhD in Computer Science

Bath, Somerset, England

Oct 2021 – Sep 2025

- Research on statistical machine learning for efficient hidden parameter estimation and decision making

UNIVERSITY OF SUSSEX

Master of Mathematics (MMath): Integrated Bachelors with Masters (4 years)

Brighton, Sussex, England

Sep 2017 – Jun 2021

- Result: First Class Honours - Average: 77% (Year 1: 80%, Year 2: 64%, Year 3: 75%, Year 4: 86%)
- Modules include: Probability and Statistics, Complex Analysis, Probability Models, Random Processes, Statistical Models, Financial mathematics, C++, Python, Portfolio Analysis, Math Models in Finance and Monte Carlo simulations
- Activities: Member of American Football team

HARRIS WESTMINSTER

A-Levels

Westminster, London, England

Sep 2015 – Sep 2017

- Academics: Mathematics A*, Further Mathematics A, Physics B, Chemistry B
- Activities: Member of Mathematics and Physics club

THE PALMER CATHOLIC ACADEMY

GCSE

Seven Kings, London, England

Sep 2010 – Sep 2015

- Academics: 4A* 7A 1B including Mathematics A* and English Language B
- Activities: UKMT Maths Challenge (Bronze, Silver then Gold)

EXPERIENCE

RESOLVE SECURITY

Door Supervisor

Brighton, Sussex, England

Mar 2019 -- Dec 2019

- Developed interpersonal skills by interacting with a variety of customers in a 2500 capacity venue.
- Furthered ability to work in a team by liaising with all 25 team members to minimize incidents.
- Improved communication skills by diffusing many volatile situations verbally.
- Learned to make quick decisions and work under pressure by dealing with situations requiring split second reactions.

FACEAPP
Fundraiser**Sussex, England**
Jul 2018 – Aug 2018

- Boosted sales confidence by setting a company regional record of 7 sales in a single day.
- Developed teamwork ability by supporting my team of 3-5 through sales when needed.

NIGHTCLUB MEMBERSHIP**Project Leader****Brighton, Sussex, England**
Jul 2019 – Sep 2019

- Gained research skills by conducting primary market research with 100+ potential customers
- Developed public speaking and presentation skills by pitching and presenting ideas and improvements to club management.
- Advanced leadership skills by managing a small promotion team of 2.

INTERESTS

- Bodybuilding (competed in bodybuilding at a national level), Powerlifting (535kg Total at 95kg), Tech (follow all new phones, computers etc. + built my own computer) , Deep Learning (working through online courses), Mountain Biking (love biking through the South Downs)