

Brighton

[Github](#)

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## 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)

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## PROJECTS

### MSC DISSERTATION

[Code on Github](#)

#### *Hidden Markov Models for Rain Simulation*

**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

[Code on Github](#)

#### *Python Game Development using Tkinter*

**Graded: 93%**

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

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## EDUCATION

### UNIVERSITY OF BATH

Bath, Somerset, England

#### *Doctor of Philosophy: PhD in Computer Science*

Oct 2021 – Sep 2025

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

### UNIVERSITY OF SUSSEX

Brighton, Sussex, England

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

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

Westminster, London, England

#### *A-Levels*

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

Seven Kings, London, England

#### *GCSE*

Sep 2010 – Sep 2015

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

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## EXPERIENCE

### RESOLVE SECURITY

Brighton, Sussex, England

#### *Door Supervisor*

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**

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- Bodybuilding (competed in bodybuilding at it 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)