

JAMES ALVEY

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Education

UNIVERSITY OF CAMBRIDGE
MMath, BA Hons. (Mathematics)

2014 – 2018

Part III: *to be completed June 2018*

Includes two Quantum Field Theory courses, Standard Model, Cosmology, and Statistical Field Theory.

Part II: *Second Class Honours, Division I* (68%)

Included two Quantum Mechanics courses, Statistical Physics, General Relativity, Electrodynamics, and Classical Dynamics.

Part IB: *First Class Honours* (78%) – Horne Scholarship

Part IA: *First Class Honours* (77%) – Horne Scholarship, Cavendish Laboratory Practical Prize

TONBRIDGE SCHOOL

2009 – 2014

A Level: 4 A*s (Maths, Further Maths, Physics, Chemistry) – **AS-Level:** 1 A (Additional Further Maths) – **GCSE:** 11 A*s

In addition, in 2014, recieved Guilt Pen awarded to top Upper Sixth student and attended UK Physics team training camp for top 15 A level physicists in the country.

Academic Experience and Skills

Undergraduate Research – DAMTP, University of Cambridge

September 2017

Fisher error forecasting for feature type Non-Gaussianity in CMB data. Parallel programming carried out using the MPI library on the COSMOS supercomputer with implementation in C.

C++ programming language – Georgetown University, Washington DC

July – August 2017

Intensive 5 week course in C++ (COSC052, 96%), taken alongside Philosophy course (PHIL010, 93%).

STIMULUS Undergraduate Teaching Assistant – Hills Road Sixth Form, Cambridge

January – April 2017

Volunteered to assist teaching A level Maths at local sixth form college weekly.

Science Editor – Varsity Newspaper, Cambridge

January – April 2017

Edited, commisioned, wrote, and conducted interviews for over 40 science based articles across 9 weekly issues on topics ranging from education to artificial intelligence.

Python programming language

Implementation of convolutional neural networks in TensorFlow and Keras on opensource datasets. Completed 4 undergraduate computing projects including work on protein bioinformatics, 1D Ising model simulations, and numerical models of the KdV equation.

MATLAB programming language

Completed 4 undergraduate computing projects including work on modelling solutions to PDEs and electrostatics.

L^AT_EX– including pgfplots

Employment

Deutsche Bank AG

July 2016 – September 2016

Completed project on the effect of central bank interest rate policy on global markets and Deutsche Bank, as well as analysed the bank's reputational risk profile within the first assigned team. Reviewed the treatment of central banks' minimum reserve requirements within the global stress test during second half of the internship.

London & Quadrant (L&Q)

July 2015 – September 2015

Produced extended report on how L&Q could analyse financial market data to shape financial policy evaluating possible statistical techniques, including multi-linear regression analysis using covariance matrices.

Interests

Music: Guitar (Grade 8), Clarinet & Violin (Grade 7) – **Cricket:** Cambridge University 1st XI 4-day Varsity squad (2015), Tonbridge School 1st XI (2014) – **Rowing (Lady Margaret Boat Club):** Men's first division with Second Boat (Mays 2017), Men's First Boat (Lents 2016)