

# ASHWIN AHUJA

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## EDUCATION

### 2020 – 2021 COMPUTER SCIENCE MENG – UNIVERSITY OF CAMBRIDGE

High Distinction in master's thesis (87%) and courses (85%) specialising in AI and Machine Learning

### 2017 – 2020 COMPUTER SCIENCE BA – UNIVERSITY OF CAMBRIDGE

First Class Honours (77%) including prize-winning (top 5 in the year) dissertation. Courses include: Artificial Intelligence, Robotic Systems, NLP, Data Science, Computer Vision, Information Theory, Quantum Computing.

### 2006 – 2017 ST PAUL'S SCHOOL

- 4 A\*s at A Levels, 1 in STEP 1: Maths, Further Maths, Physics and Computer Science
  - 11 A\*s at GCSE
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## EXPERIENCE

### Summer CAMBRIDGE CONSULTANTS

#### 2019 Software Engineering Intern

In a twelve-week internship, I completed both internal and external projects, producing data visualisation and analysis tools and creating a Computer Vision system for a next-generation bar.

### Summer MAN GROUP (AHL)

#### 2018 Quantitative Engineering Intern

Spent twelve weeks in the Core Quant fund management team at AHL. Implemented (and benchmarked) the PyPy JIT compiler to speed up their existing Python codebase, extending the open-source library where required.

### Summer MALVERN INSTRUMENTS

#### 2016 Software Work Experience

Spent two weeks in the software team for the Morphologi Microscopes. Wrote scripts in VB to help automate the calibration procedure.

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## PROJECTS

### 2020 - 2021 How quickly can we get back to the pub? A COVID-19 Vaccine Distribution Simulator

Extended Royal Society work to consider the impact of different COVID-19 vaccination policies on R rates and mortality rates, conducting sensitivity analysis. Also considered the impact of the new variant (N501Y) and varying population immunities.

### 2021 - 2021 Applying Model-Agnostic Meta Learning for Deep Learning Schizophrenia Diagnosis

Completed a project demonstrating the potential applicability of Model-Agnostic Meta Learning on Convolutional Neural Network based Schizophrenia Diagnosis on the COBRE dataset. Compared the MAML system to baseline CNN and SVM systems.

### 2019 - 2020 Implementing the OpenFace Tracker for Gaze Tracking on a Windows Tablet

For my final year project, I extended the OpenFace library to produce a real-time eye tracking system on a Windows Tablet. I also implemented and compared intrinsic and personal calibration methods and produced two demo applications (for Windows and iPad) to allow UI designers to conduct eye tracking tests on their designs. Won a prize for my project, awarded to around the top five projects in the year.

### 2020 - 2021 Designing an end-to-end inertial navigation system using earables

Completing master's thesis on implementing inertial navigation (navigation without GPS) on a custom smart headphone.

### 2020 - 2021 Compressed U-nets for Real-Time Speech Enhancement

Implemented model compression (Pruning, Quantization, Knowledge Distillation) techniques to complete CPU based real-time voice denoising.

### 2016 – 2017 Tech Support Service

Designed and made a product to allow elderly people to get easy, cheap and good technical support from teenagers in their area. Produced client applications for the elderly and teenagers as well as the backend systems (written in .NET Core and Python).

### 2016 - 2017 Ascension: Science from The Stratosphere (Founder)

Founded a project to introduce students from London schools to exciting aspects of science, by offering them an opportunity to devise, design and build scientific experiments that were launched on a High-Altitude Balloon.

### 2016 - 2017 Cyclone CanSat (Team Leader and Electronics & Software Lead) – Bronze Medal

Led a team of nine for a European Space Agency competition. Our device was the size of a 330ml can and was dropped from a kilometre by a balloon. We produced an autonomous folding drone using a live camera and environmental sensors (pressure, temperature, humidity).

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## PERSONAL

**Software:** Python (including PyTorch, NumPy, SciPy, Keras), Java, C++, C#, C, Swift, MySQL, ML

**Electrical Design:** EagleCAD, SMD soldering

**Sports:** Cambridge Captain for Rugby Fives (Half-Blue), Cambridge First Real Tennis. Caius First Team for Cricket, Badminton, Squash and Lawn Tennis.