

# Naresh Rasakulasuriar

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## Summary

I am a second-year engineering undergraduate at the University of Cambridge primarily interested in the integration of electrical and mechanical systems within automotive vehicles, as well as a vast array of other applications.

## Education

**University of Cambridge, Trinity College | MEng Engineering** **2018-2022**

- First Year, 1<sup>st</sup> Class (ranked 28<sup>th</sup> in a university cohort of 326), Junior Scholar of Trinity College

### Modules

- Mechanics and Thermofluids, Structures and Materials, Electrical and Information Engineering, Mathematics and Computing, Business and Sustainability.
- Electives:** Information Engineering including Deep Learning, Computer Vision and Planning/Reinforcement Learning. Aerothermal Engineering including turbomachinery and aircraft design.

### Coursework

- Integrated Design Project - develop an autonomous robotic system to solve a real-world problem inspired challenge.
- Microprocessor Programming – using C++ to control a ARM Nucleo STM32 board.
- Computing – Using python and C++ to simulate a Mars Lander and using control theory to control its descent.
- Drawing Skills – SolidWorks software.

### Haberdashers' Aske's Boys' School

**2005-2018**

- 10 A\*s at GCSE, 4 A\*s at A-Level in Mathematics (599/600), Further Mathematics, Physics and Chemistry.
- Gold in: British Physics Olympiad, Senior Maths Challenge and UK Chemistry Olympiad in 2018.
- Awarded an academic scholarship and the Tietz STEM Prize in physics for my extended research project on the interaction between the aerodynamics and powertrain of Formula E racecars.

## Experience

**Summer Aerodynamics Intern | Williams F1 Grand Prix Engineering** **Jul 2019 – Aug 2019**

- During an 8-week internship based in the on-site wind tunnel I aided the team in building, testing and analysing scale models of the current 2019/2020 Williams F1 car.
- I created a document detailing a more efficient scale model measurement procedure, including detailed diagrams obtained via extensive use of NX CAD and Teamcenter PLM software.
- Performed a time and motion study in order to minimise downtime and presented my findings and potential solutions to the heads of the aerodynamics department and aerodynamic testing.

### Team Member | Cambridge Full Blue Racing team

**Oct 2018 – Jul 2019**

- Worked towards entering the Formula Student Competition taking place in July 2019 specialising in the powertrain.
- Hands on experience with R&D as well as physical implementation of ideas; part of a team designing and implementing a turbocharger/supercharger in the powertrain.
- Personally lead research on implementing a flappy paddle gearbox shifter system to work with the current sequential gearbox.

### Work Experience | Waterman Structures Ltd. London

**Jul 2017**

- Tasked with modelling a base plate with pile caps and testing the loading within Autodesk Robot software
- Met with clients and presented on whether the design could withstand the required loading.

### Head Structural Engineer | UKSDC team

**Sep 2016 – Jul 2017**

- Focused on the structural design of a scientific space base on the surface of Europa, an ice moon of Jupiter, via SolidWorks CAD design whilst collaborating with other departments (e.g. energy) to meet a variety of requirements.

## Other roles

**Publicity Officer | Cambridge University Engineering Society** **May 2019 – Present**

- Chosen to advertise events that the society will host, utilising publicity tools such as social media, posters and stunts. The prospect of an online academic term or year during 2020 has introduced unforeseen innovation into my role.

### Writer | OxbridgeIQ

**Sep 2019 - Present**

- Part of a team helping set up a new business creating and selling practice interview questions to prospective Oxbridge applicants, specialising in creating original Engineering interview question content.

**Liaison Officer | Trinity College Engineering Society****Apr 2019 – Apr 2020**

- My role involves researching and contacting high profile speakers to deliver talks to students on a variety of engineering related topics.

**Co-Founder & Chairman | Engineering Society at Haberdashers' Aske's Boys' School****Sep 2017 – Jul 2018**

- Created and lead a committee of 5 to deliver student lead talks on a plethora of engineering topics, personally delivering 2 talks to an audience of 30 peers ranging from 12-18 years of age.

**Chairman | Science Society at Haberdasher's Aske's Boys' School****Sep 2017 – Jul 2018**

- Selected by the previous committee to lead a team of 7 to organise events ranging from high profile external speakers to committee-lead debates on current scientific affairs.

**Additional Information**

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**Technical Skills**

- Working knowledge of Python, C++, MATLAB and the use of Git version control as part of my Engineering course.
- Have experience in SolidWorks CAD software during GCSE Design & Technology 2015/16 and as part of my Engineering course.
- Effective written and oral communication in an array of environments demonstrated by my presentation skills during my summer internship at Williams F1 and work experience at Waterman Structures Ltd.
- Can lead a team and understand the key skills of those in my team, having captained my school 1<sup>st</sup> XI cricket team and headed the structural division of the UKSDC group project.
- Ability to learn new techniques quickly and apply them to relevant situations as demonstrated by the rapid learning of new software and engineering techniques at Williams F1.

**Activities**

My motivated attitude towards the following activities has lead to significant improvements in my teamwork and communication skills.

Cricket (University 2<sup>nd</sup> XI, Club 1<sup>st</sup> XI, 1<sup>st</sup> XI School Captain); Rugby (College Level); Squash (Recreational); Table Tennis (Recreational); Sri Lankan Drums (Mridangam, Grade 8); Bollywood Dance Troupe (University Society); Sri Lankan Dance – Bharatanatyam

**Referees**

Dr. Stuart Haigh - Director of Studies at Trinity College, Cambridge - [skh@cam.ac.uk](mailto:skh@cam.ac.uk)

Mr. Richard Amlot – Head of Sixth Form at Haberdashers' Aske's Boys' School - [Amlot\\_R@habsboys.org.uk](mailto:Amlot_R@habsboys.org.uk)