**ALI DBOUK**

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**Education**

**University of Cambridge – Clare College (2019-2024)**

MEng Manufacturing and Management Engineering (1st year: 72%, 2nd year: 79%, both first class equivalent)

**Relevant Modules**

* **Mathematical Methods**: mathematics and computing
* **Management**: organisational behaviour, financial and management accounting, industrial economics and strategy, operations management and managing people and business.

**Relevant Coursework**

* Computing and Numerical Analysis. Developed a working understanding of python, creating a flood warning system using real-time data from monitoring stations throughout the UK. Similarly completed a project in C++, coding an automated mars probe landing sequence in different scenarios.

**Additional Skills (Online Courses)**

* The Fundamentals of Modern Finance (MIT): Learnt about the mechanics of debt and equity markets.
* CS50’s Introduction to computer science (Harvard): Gained an understanding in, python, HTML+CSS, JavaScript and SQL.
* CS50’s introduction to artificial intelligence using python (Harvard): Learnt about the theory behind AI and applied it in python.

**City of London School, London**

A-Level (2019)

* 3 A\*: Maths, Further Maths, Physics
* 1 A: Economics

EPQ (2018)

* A\*: The Electrification of the Automobile and its Place in the Future of the Industry.

IGCSE (2017)

* 10 A\*: Spanish, Latin, Greek, Math, Physics, Biology, Chemistry, French, History, Geography
* 2 A: English literature, English language
* 1 A: Additional Maths (FSMQ, the highest grade achievable)

**Employment**

**Relevant work**

* Optimisation Engineer, QuasiScience (London, 2022-Present, 9 months)**:** QuasiScience is a technical consultancy startup focused on bespoke AI based solutions to clients.
  + Conducted data analysis studies, an example being using Kalman filters for de-noising wind data so that short term levels could be predicted more accurately.
  + Created a scheduling tool for job shops, learning how to model a complex work environment and generate a suitable objective function, and use combinatorial optimisation to get to a solution. Viewing the results involved analysing an existing django web application and building up its core features and UI for improved user functionality
* Vehicle Dynamics Intern, Mercedes-AMG Petronas Formula One Team (Brackley, 2021-2022, 14 months)
  + Worked in the Vehicle Dynamics team running simulations and analysing the results to determine the theoretical optimum setup of the car before the race weekend.
  + The major project involved deploying a data visualisation tool to analyse race telemetry in the frequency domain in MATLAB. This was rigorously tested this in-house with external partners and is now used frequently within the race weekends.
  + Supported team on the race weekends by conducting competitor analysis during races. Analysed large data sets and reporting key information to the strategists under a high level of pressure so the team can make informed decisions.
  + Collaborated with other departments to improve the modelling capabilities of simulation tools and to automate select cross-departmental tasks.
  + Evaluated high-level concept designs for the future car with the aim of giving the optimum design to the aerodynamics department to design around.
  + Highly commended for the quality of work produced and ability to solve applied problems under pressure, as a result Mercedes extended the internship to maximise my output with the team.
* Issufy (London, 2017, 1 week): Startup company which develops software and gives an online platform to organize the way initial public offerings (IPOs) are done.
  + Co-ordinated with the software team to write up descriptions for variables and functions in the code of the website. Produced and presented a report on the future of financial technology.
  + Observed the process behind an IPO and how startups are managed.

**Extra-curricular**

Head of Vehicle Dynamics and Simulation, Cambridge University Eco-racing (2019-present)

* The aim of this society is to build from scratch an electric vehicle and race across Australia.
* Proposed an optimal suspension configuration for the previous car given the suspension layout, and currently directing a team of 15 undergraduates to design a new suspension configuration from scratch to maximise the performance of the vehicle, and develop simulation capabilities to model the behaviour.

Team Leader, Integrated Design Project (2020)

* Led a team to the highest score in a project which involved creating a self-driving robot which would sort different coloured blocks on a line and place them in the right location. Achieved first place in the competition.
* Gained leadership skills in coordinating a group of students to create a competitive product in an efficient and timely manner.

Head of Lighting, Tech team, City of London School, London and Cambridge (2015-present)

* Drama technicians direct the lighting, sound and multimedia for theatrical performances.
* Managed a team of 5 students, programming and designing the lighting configurations under strict deadlines. Conducted shows under pressure to coordinate the lighting, making sure each transition was seamless.
* Successfully produced the lighting at a TEDx Squaremile event in 2017.

Mentoring (2018-2019)

* Became a mentor for younger students in physics and French. Learnt to explore the subject into further details and find ways to explain the concepts of these subjects in a comprehensive yet simple way.

Corporal, RAF Cadets (2015-2017)

* Completed military drills, exercises, and engaged in problem solving tasks. Learnt discipline and how to work efficiently in a team, and gained valuable leadership experience.

**REFEREES**

Aylmer Johnson, University Senior lecturer, University of Cambridge, alj3@eng.cam.ac.uk

Cristopher Webb, Head of 6th form, City of London School, CRW@cityoflondonschool.org.uk