udai.arneja11ua@gmail.com

Udai Arneja

25 Queens Walk, Ealing, W5 1TP

07908666302

A self-driven engineering professional with a passion for developing innovative ideas and solving challenging problems. An entrepreneur who has delivered contracted, technically complex projects to small businesses.

A member of the British Mensa and the Imperial College Rowing Team

EDUCATION

Imperial College London - expected graduation 2022 **Ongoing**

Third Year **Electrical and Electronics Engineering with Management,** predicted 1st Class

Engineers in Business Fellowship Prize Winner **2021**

Current modules of study:

+ Machine Learning (incl. RL)
+ Algorithms, Data Structures and Complexities
+ Deep Learning (CNN, RNN)
+ Signals and Communications
+ Artificial Intelligence
+ High Level Programming (Git, F#)
+ Digital Electronics
+ Computer Architecture

A-Levels: 3A*'s, 1A **2018**

(Mathematics, Further Mathematics, Physics, Chemistry)

GCSEs: 11A*'s, 2A's **2016**

EXPLORATION & DEVELOPMENTS

Nova Scientia - Software Engineering Industrial Placement **April 2021 – Present**

(An Oxford-based start-up developing high precision optical fibre sensors)

+ Implementing a **Python** based application for further signal processing and user interpretation of strain, temperature, and shape measurements.
+ Optimised signal processing modules on a Xilinx based **FPGA**
+ Developed and integrated I^2C communications for system monitoring into the system **Linux Kernel**

BGN Google Hackathon (Flutter, Python : Databases, Flask) **March 2021**

+ Developed an application to crowdsource the data-labelling process of machine learning datasets
+ Implemented image segmentation using the U-Net CNN architecture for data pre-processing

Citadel's The Data Open (Python : Pandas) **February 2021**

+ Applied statistical analysis to COVID-19 datasets to identify relationships between cases, mobility, government measures and economic climate, presenting findings in a formal report

Designing and developing websites (HTML, CSS, JavaScript) with SEO **2020 - Present**

+ Self-taught skillset to a comprehensive & applicable level
+ Two websites, programmed and delivered for "www.sla.institute" & "www.bradberrys.co.uk"
+ Circa £2500 for 100 hours of work

Developing skills in Machine Learning (Python : Pandas, TensorFlow, Scikit-learn) **2019 - Present**

+ Independently learning and exploring algorithms and networks with various online databases
+ Studying applications of day-to-day usage – particularly from ARM and Apple Research websites

Innovating a Household Water Wastage Reduction System (C++) **2019 - Present**

(Doppler Effect, Wireless Communication, Web Application)

+ Leading a team of six to revolutionise society's awareness on water consumption
+ Conducted market research and engaged in discussions to gain feedback from experienced mentors

Large Number Multiplier (ARM Assembly – Visual2) **2019 - 2020**

+ Understanding of ARM6 CPU's capabilities & functionality through machine language
+ Focus on optimisation of implementation, and limits & complexities that arise

Mastermind Board Game Solver (Genetic Algorithm - C++) **2019**

+ Focus on efficiency of outcome - low trials & quick search time (<10 seconds)
+ Conducted guided research into the mathematical approaches by various scholars

EXPERIENCE

Private Tutor – Mathematics & Physics A-Level 2019 - 2020

+ Extending in-school course knowledge to create a greater appreciation for the subject
+ Development of explanatory skills, breaking down problems into easily comprehendible segments

PwC – Data Analyst 2017

+ Use of various tools, including Tableau, in "Big Data" analytics for producing a greater number of observations that are more useful than traditional data analysis.
+ Led a team of four to prepare and deliver a presentation regarding the development of an international delivery company, identifying and highlighting areas of long-term profits, losses and inefficiencies.

CISCO 2016

+ Applied existing Python knowledge to create QR codes
+ Began initial designs on a student app to match house sharers with accommodations

The Children's Society – Volunteer 2014 - 2018

+ Worked in a small team, on a weekly basis to support the local charity shop in raising money to aid children from disadvantaged backgrounds
+ Formed personal relationships with local community members

PERSONAL ACHIEVEMENTS

British Mensa 2018 - Present

Rowing 2017 - Present

+ Senior Level for Imperial College and have competed in several races - placed second in the novice men's 8+ category at the British Universities & Colleges Sport Competition.

Cycling 2019 - Present

+ Undertook a nine-day road cycling expedition in the French Alps, covering over 650 km with 18,000m of vertical elevation.
+ Researched, learned and constructed a carbon road bike for weekly cycling trips.

Tennis 2017

+ Represented the London Borough of Ealing in Tennis at London Youth Games, winning a silver medal.

Photography Present

+ A passion for DSLR photography (Nikon D40x) : www.500px.com/udaiarneja11ua