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Udai Arneja

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EDUCATION

Imperial College London (ICL)   2018 – Jun. 2022

Candidate for MEng in Electrical and Electronics Engineering with Management   **1st Class** (Expected)

Engineers in Business Fellowship - awarded by the Imperial College Business School

Relevant Modules of Study: Introduction to Machine Learning, Deep Learning, Mathematics for Signals and Systems, High Level Programming, Artificial Intelligence, Algorithms and Complexities, Statistics, Signals and Systems, Entrepreneurship.

Tiffin School   2016 – Jun. 2018

A-Level Grades: Three A*'s, One A (Mathematics, Further Mathematics, Physics, Chemistry)

Deputy Head Boy | Engineer of the Year Award | Top 5 in Mathematics | Silver CREST Award (British Science Association)

WORK EXPERIENCE

Nova Scientia – Optical Fiber Sensor Start-up   Apr. – Sept. 2021

Software Engineering Intern, Technology Division

- Implemented a **Python**-based application for signal processing and user interpretation of fiber-deformation measurements.
- Optimized signal processing modules in Vivado (**C++**) on a Xilinx-based FPGA, improving the resource allocation by 10%.
- Adapted and integrated various communication protocols (including **I2C** and **CAN**) using Command Line Tools in a **Linux** environment which successful monitored and added routines to mitigate potential fault modes.

The Hamlyn Research Group at ICL - The Royal Society Summer Exhibition   Mar. – Jul. 2021

Lead Front-End Software Developer

- Created a virtual experience for users to interact with Kuka Robots located in ICL Labs, replicating **robot-augmented surgery**.
- Used **JavaScript** to integrate **Depthwise Separable Convolutional Models** from Google's Facemesh API to interpret both head-movement and gaze-location of users to control the robot direction.

AU Cloud Limited - Web Development   Apr. – Oct. 2020

Independent Contractor

- Networked with small businesses and architected bespoke websites for each during the COVID-19 pandemic, generating traffic of over **3000 unique users** per month.
- Designed and developed said websites in HTML, CSS & **JavaScript** using **Google Firebase** and Microsoft Hosting Services.

OTHER EXPERIENCE

Google Developers Student Club, Imperial College Chapter   Aug. 2021 - Present

Club Lead

- Established a student developer community within ICL, encouraging diversity of backgrounds and disciplines.
- Organising various events to provide opportunities for students to engage in more practical projects with experienced mentors.

BGN Google Hackathon   Mar. 2021

Backend Development and Idea Presentation

- Created an application to streamline the data-labelling process for Machine Learning Datasets, connecting users to ML start-ups.
- Used Google Firebase to store data and implemented image segmentation (U-Net CNNs) for data pre-processing.

Citadel's The Data Open   Feb. 2021

Data Analysis

- Applied regression models to COVID-19 datasets to observe and compare the effectiveness of global government measures, presenting findings in a formal report.

Tutti, Engineers in Business Fellowship   Nov. 2020 – Feb. 2021

Team Leader

- Formulated and refined a business plan around an amateur orchestra management application, pitching this to investors.
- Collaborated with more than 50 orchestra groups across London to understand areas of support and applicable revenue structures.
- Received £500 investment and the runners-up position within our cohort.

ACTIVITES AND HOBBIES

Silver Medallist for Imperial Rowing at BUCS | Member of the British Mensa| Ballroom Dancing | Silver Medallist in the Tennis London Youth Games | 250+ volunteering hours - The Children's Society | Private Tutor | Enthusiastic Road Cyclist & Photographer.

SKILLS

Technical: Python (Proficient in data handling libraries), JavaScript, F#, HTML5 & CSS, C++, Docker, Git, Linux