

Experience

- 07/21 - Present **External Data Consultant - Oxford City Council**
- Designing the movement, storage, transformation and aggregation of data from four existing data streams.
 - Extracting data from 11 different sources with Python scripts and Azure Automation runbooks.
 - Creating a PostgreSQL database to load data and enabling analytics and aggregation with Tableau.
- 07/20 - 09/20 **Research & Development Intern - Sentec Limited (Xylem Subsidiary)**
- Responsible for the complete design of a novel end consumer product (NDA signed).
 - Developed 120 different ideas and 12 prototypes over the span of three weeks in a team of six.
 - Produced two working demonstrators to showcase technological methodology, one of which was selected for patenting due to commercial viability.
 - Drafted initial patent application covering alternative methods and applications of the technology.
- 01/20 - 12/20 **Project Manager - T2Diary**
- Led a team of four to develop a mobile application for Type 2 Diabetics.
 - Created user interface with Figma and devised features and functions through continuous engagement with diabetics, nurses and doctors.
 - Technical development of app features, animations and user interface using Flutter (Dart) for Android and iOS platforms.
- 10/20 - 06/21 **Solo Developer - Machine Learning Algorithms for Intra-Day Trading**
- Developed a Python algorithm to automate a trading pipeline with IBKR API.
 - Designed a proprietary data manager to retrieve, organise and clean high frequency data.
 - Analysed performance of different time series forecasting methods including ES and ARIMA.
- 10/15 - 08/17 **Lieutenant – Singapore Armed Forces**
- Company 2nd in Charge (Lieutenant) – 924th Singapore Infantry Regiment.
 - Bonded a company of 145 individuals for the next 10 years by conducting military exercises and training.
 - Force Commander (2nd Lieutenant) – 8th Singapore Infantry Regiment.
 - Orchestrated operations for over 90 troopers located across the country in collaboration with various bases.
 - Sword of Merit (Officer Cadet) – Officer Cadet School.
 - Commissioned within top 5% of cohort as judged by performance in military exercises and tests, alongside commander and peer assessments.

- 10/20 - 03/21 **Metal Forming Researcher - Process Design for Sheet Metal Stamping**
- Investigated the optimisation of stamped components on MATLAB and AutoForm in a team of four.
 - Modeled viscoelastic flow with constitutive equations to generate material properties for simulating forming process.
 - Optimised hot stamping process to minimise surface defects on an aluminium alloy component by adjusting forming speed and forces.
 - Enhanced post-form strength and geometrical accuracy with heating and quenching.
- 01/21 - 03/21 **Project Manager - Automated Production of Wind Turbine Turntables**
- Developed a manufacturing plan to automate the production of large steel wind turbine turntables.
 - Engineered a floor and process plan, and determined manufacturing lead times for costing and scheduling.
- 10/18 - 06/20 **Project Manager – Vehicle Control & In-Hub Motor for Formula Student**
- Delegated tasks to a team of six to create power delivery, telemetry and control schematics with KiCAD for FSUK 2019.
 - Designed uprights and hub shafts on SolidWorks for manufacturing an outboard tractive system in a separate team of four for FSUK 2020.
 - Planned strength, electrical and corrosion testing to ensure optimal performance.
- 10/19 - 12/19 **Software Developer – Explosive Ordinance Disposal Robot**
- Developed Embedded C algorithm on MPLAB for an autonomous robot purposed for ordinance disposal in a team of two.
 - Tackled navigation, mapping, and information retrieval using radio-frequency and infrared.

Education

- 09/17 – 06/21 **Master's in Mechanical Engineering – Imperial College London**
- Year 4 Student – Current Grade: First Class (70.29%).
 - Core modules: Metal Processing Technology, Manufacturing Technology & Management, Interfacing & Data Processing, Heat Transfer.
 - Other modules: Corporate Finance, Design Art & Creativity, Business Economics.
- 03/12 - 05/15 **Diploma in Mechanical Engineering and Business – Ngee Ann Polytechnic (Singapore)**
- Graduated as Valedictorian and awarded Lim Teck Lee Gold Medal & Prize.
 - Grade: 3.93/4.00
 - Key Modules: Industrial Automation, Engineering Design Process, Marketing Fundamentals, Idea Launchpad, Effective Negotiation

Others

- Languages & Frameworks
- Prior experience with Python, MATLAB, Dart (Flutter), C, SQL (PostgreSQL).