Dinesh **Kalamegam**

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Education

University College London

London, UK

MEng Mathematical Computation - First Class Honours — *2016 - 2020*

- **Thesis**: SOTA Robot to Collect Feedback From Children — *Oct 2019 - May 2020*
- **Relevant Modules**: Data Structures and Algorithms, Object Oriented Programming, Concurrency, Databases, Compilers, Computer Systems
- **Lead Departmental Representative**: Undergraduate Computer Science — *Oct 2019 - Aug 2020*
  - Made changes to the Mathematical Computation program for more flexible options and added more mathematical material into the degree
  - Led fellow course reps in setting committee meeting agendas as well as leading discussions on how to handle feedback on the Unitu online feedback platform
  - Provided reassurance and information between staff and students during the COVID-19 Pandemic

Experience

BMLL Technologies Ltd

London, UK

Intern — *Jun 2019 - Sep 2019*

- Developed methods to implement the graphs of the financial research paper "The Benefit of European Periodic Auctions Beyond The MIFID II Double Volume Caps" into a Jupyter Notebook using the BMLL Platform emulating a BMLL client
- Successfully reproduced 80% of the graphs in the paper which demonstrated that the BMLL platform was a viable platform for the needs of Kepler Cheuvreux which assisted in improving the relation between the two companies
- Accessed limit order book and trade data of STOXX 600 components with BMLL's Python API and performed analytics using Pandas
- Utilised PySpark to distribute computations on more than 500,000 Securities across 3000 cores with Amazon Web Services (AWS)
- Visualised the analytical trends of the paper into interactive graphs with the Plotly Python graphing library

University College London (UCL) & UNICEF

London, UK

Software Developer — *Jan 2017 - Apr 2017*

- Lead researcher in a team of 3 where we developed an online database management system in collaboration with UNICEF.
- Designed administrator dashboard using HTML, CSS, and Material Design Lite (MDL), thereby allowing admins quick-and-easy access to member information and administrative tools.

Skills

Languages Python, Java , C , SQL , HTML , CSS , JS

Technologies MongoDB, Numpy , Git , LaTeX, React JS

Projects

SOTA Robot to Collect Feedback from Children - (Python | MongoDB | Robotics)

London, UK

Great Ormond Street Hospital (GOSH) & NTT DATA — *Oct 2019 - May 2020*

- Proof Of Concept system for NTT Data and Great Ormond Street Hospital to use a tabletop social robot called "SOTA" to deliver feedback questionnaires
- Questionnaires developed using interchangeable JSON files. Gives users ability to set both closed questions with custom expected responses and open questions.
- Robot and child are able to interact with each other through voice, robot reacts to positive and negative responses programmed in Python
- Used cloud MongoDB database to store responses and created visualisations of the data gathered.

Module Mark Visualiser (HTML | CSS | ReactJS)

Personal Project

- Available at: https://dinesh-kalamegam.github.io/ucl-cs-foi-react/
- Currently a work in progress - Created website with React JS for third and fourth year computer science students to compare the mark percentiles of modules
- Used the react-chart-js-2 library to create the bar charts and line charts using data in JSON format

Unity 2D Endless Runner – (Unity Engine | C#)

Coursework

- Sole Researcher, Developer and Tester of a 2D endless runner game for A-Level Computing Project under a spiral model system development life cycle.