KARTHIK SURESH

Information and Computer Engineering student with experience in software development and data modelling.

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EDUCATION

Information Engineering, BA & MEng (Hons)
University of Cambridge   📅 Oct 2016 – Jun 2020

- Courses include Statistical Signal Processing, Probabilistic ML, Deep Learning, Computer Vision, Practical Optimisation, Information Theory, and Computer Systems.
- Achieved **First-Class** grade in 3rd year project. Developed the graphical user interface in Python for software that simulates digital circuits.
- Achieved **Top Grade** for technical report that investigated the storage and implementation performance of different compression methods.
- **Software Lead** on autonomous robot construction project. Programmed algorithms in C++ that allowed robot to follow lines and chart optimal path.
- Achieved 2:1 grade in third year examinations.

A - Levels
Cranleigh School, UK   📅 Sep 2012 – Jun 2014

- Attained A* grades in Physics, Chemistry, Maths and Further Maths
- Winner of Year 12 Chemistry Prize, and Year 13 Mathematics Prize.

EXPERIENCE

Software Development Intern (Extreme Blue Program)
IBM (UK)   📅 Jun 2019 – Sep 2019

- Worked in a team of 4 interns on a client project for Aardman Animations.
- Built a pair of mobile applications to improve the engagement between two key client user groups, using Unity (C#) and VueJS respectively.
- Integrated cloud functions, multiple database services, and MQTT broker services to create user data collection, analysis and presentation workflows.
- Developed an algorithm that improved video streaming speed from cloud storage by 300%, compared to the built-in Unity streaming object.
- Conducted user-testing with real users to validate quality of data collected for analysis.
- Prototype received commendation from client company's founders for technical design and attention to user needs, in final team presentation.
- Primary inventor on search algorithms related patent submission.

Software Development Intern
I2R (Singapore)   📅 Jun 2019 – Sep 2019

- Conducted research to investigate how Serverless web development could help the team lower infrastructure costs, improve scalability, and enhance security.
- Enabled team to continue research into Serverless by presenting a working prototype of a Serverless web application, built using AWS user management services, cloud functions, and cloud database resources (SQL).
- Built ReactJS web application interface to enhance user experience.

Software Development Intern
ConnectDott (Singapore)   📅 Nov 2017 – Dec 2017

- Self taught principals of object-oriented programming using C# codebase.
- Created two new views and fixed two feature bugs within a Xamarin mobile application that enables mariners to manage maritime certificates.
- Pull request accepted for inclusion in release of app update.

STRENGTHS

Python   C#   JavaScript   SQL   Probabilistic ML   Deep Learning   Ensemble Models   Cloud Platforms   Sequence Modelling   Clustering   Data Visualisation   Statistical Models

PROJECTS & ACHIEVEMENTS

2018 Dublin Datathon
2nd placed team out of 25 teams

- Cleaned and organised New York state food establishment health inspection data using Python.
- Created logistic regression model in Python to predict likelihood of critical health violations.
- Received commendation for clarity in submission's analysis and presentation.

Unsupervised Feature Selection
Master's Project

- Investigating the best way to identify key features or groups of related features within a dataset.
- Primary test case involves identifying oscillatory groups of genes in a dataset with 1400 features.
- Exploring methods such as PCA, Sparse PCA, Dictionary Learning, and Clustering.
- Validation methods include applying methods to simulated data with known characteristics, and evaluating supervised learning results on reduced labeled datasets.

LEADERSHIP & INTERESTS

President
Impact Through Innovation Cambridge

- Cambridge engineering society that enables individuals to participate in technical projects that aim to tackle global challenges.
- Developed communications strategy which resulted in 60% increase in sign-up and established links with an international NGO.

Player & Committee Member
Cambridge University Cricket Club

- Raised over £4000 for an overseas tour.
- Instituted initiative to integrate college cricket schedules and databases to enable greater university-wide participation.
- Earned professional cap for Cambridge University against Worcestershire.
- Represented Singapore in the 2017 SEA Games.