

AYUSH SINGH

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EDUCATION & COURSES

University College London <i>MEng Electrical & Electronic Engineering</i> <ul style="list-style-type: none">First-year grade: 80% (First Class); Second-year grade: 76% (First Class)	London, United Kingdom September 2014 - Present
Johns Hopkins University (exchange) <i>Computer Science</i> <ul style="list-style-type: none">Courses include: <i>Natural Language Processing, Machine Learning, Artificial Intelligence and Introduction to Greek Philosophy</i>	Baltimore, United States August 2016 – May 2017
Manchester Grammar School <ul style="list-style-type: none">A Levels: MEI Further Maths (<i>self-taught</i>), MEI Maths, Physics, Chemistry, AS Economics	Manchester, United Kingdom September 2012 – June 2014

RELEVANT EXPERIENCE

Reflexis (Advanced Analytics Division) <i>Data Science Intern</i> <ul style="list-style-type: none">Built complex, feature-based statistical and machine learning models to forecast sales metricsTransformed a timeseries into a stationary series to help with forecasting and tested stationarity using p-valuesPlotted autocorrelation and partial-autocorrelation functions to determine optimal parameters for ARIMA(X) modellingUnderstood correlation between different metrics to help forecast one metric by understanding the trends of anotherTuned and combined multiple instances of the random forests algorithm model to decrease mean-squared error from ~80m to ~7mUsed <i>Jupyter Notebook</i> with numpy-based libraries such as <i>pandas</i>, <i>scikit-learn</i>, <i>pyflux</i>, <i>statsmodels</i> etc. to organise and manipulate data	Atlanta, United States July 2017 – September 2017
Accelerated Dynamics (Entrepreneur First – Cohort 5) <i>Software Engineering Intern</i> <ul style="list-style-type: none">Examined quadcopter drone autopilot and stabilisation systems, including practical aspects of <i>Pixhawk</i> and <i>APM</i> autopilot systems and how to interface high-level functions to the autopilot, such as Waypoint Navigation, Takeoff/LandProgrammed C++ control nodes in <i>ROS</i> to interface with real and simulated drone autopilot systems, specifically <i>Pixhawk</i> and <i>APM</i>Designed and developed <i>multi-drone</i> control panel using <i>AngularJS</i>: debugged performance issue that made previous UI unusableUsed <i>ArduCopter</i> Software-In-The-Loop (SITL) functionality to simulate and control multiple drones on <i>Ubuntu 14.04 LTS</i>Explored other deep-tech EF startups, understanding concepts of founder-idea fit, product-market fit and early-stage investor relations	London, United Kingdom June 2016 – August 2016
RARE Foundations Technology <i>Software Engineer</i> <ul style="list-style-type: none">Built an app using <i>Ionic 1</i> and the MVC paradigm in a four-person team to help university students choose the right electivesImplemented back-end with <i>Firebase</i> to allow users to register, login and permanently store app data in the cloudDiscussed app's design and testing in one-to-one sessions with Facebook and FactSet software engineersPresented our app as a team at <i>Facebook</i> London HQ	London, United Kingdom June 2016 – September 2016

PROJECTS

WIPS-based solution for LoRaWAN network (4th-year project) <ul style="list-style-type: none">Create more resilient system to prevent denial-of-service (DoS) and other malicious network attacksAim to increase battery life in devices that use LoRa by reducing number of packets end nodes need to transmitCreate web-app to manage system and tests	October 2017 – Present
Semester.ly (Remote Software Engineering Intern) <ul style="list-style-type: none">Built front-end features and committed bug fixes using <i>React+Redux</i>Enhanced back-end experience for project developers using <i>Django</i> with 'django-hijack'	June 2017 – Present
Compilers <ul style="list-style-type: none">Built a compiler's token scanner, parser, symbol table, abstract syntax tree and interpreter using Python 3Constructed algorithms using the observer and visitor patterns to represent the CST and AST respectively	Feb 2017 – April 2017

SKILLS, ACTIVITIES & INTERESTS

Self-Study Courses: Introduction to Computer Science (**HarvardX**), Introduction to Corporate Finance (91%, **Wharton** Coursera), EDT Headstart Computer Science (**University of York**)

Languages: Conversational Hindi, Basic Spanish

Activities: Co-Founder of UCL IEEE Student Branch, UCL Gliding Society (over 9 hours flown), MGS Engineering Society (built quadcopter), BA Silver CREST Award awarded in Go4SET

Interests: Guitar (Grade 5), Violin (Grade 4), Badminton, Cricket