# SOLAN MANIVANNAN

• UK Citizen  • (+44) 07411 064 993 • solan1803@gmail.com • github.com/solan1803 • https://solan1803.github.io/

## EDUCATION

**2014-2018**  
**Imperial College London, UK**  
*Master of Engineering in Mathematics and Computer Science*  
Year 3: 77%, On track for First Class Honours

**2015**  
**Stanford University, CA**  
*Computer Science (Quarter Abroad)*  
GPA: 3.9

**2007-2014**  
**Queen Elizabeth's Boys School, Barnet**  
A Levels: Mathematics (A*), Further Mathematics (A*), Physics (A), Geography (A)  
GCSEs: 13A*s including Mathematics and English

## SIGNIFICANT PROJECTS

**Oct '16 - Jan '17**  
**Pulmonis (https://git.io/vDUgY)**                    Swift, C, Xcode  
*An iOS application that acts as a virtual companion for asthma patients.*

- Built bluetooth spirometer using an Arduino to record peak expiratory flow values with 95% accuracy.
- Collaborated with the National Health Service and Asthma UK to implement the official action plan framework, which uses input data to provide asthma patients with proactive support.
- Setup continuous integration and automated testing using macOS Server with 88% code coverage.
- Awarded 2nd place in Imperial's software engineering group project competition.

**Jun '16 - Jun '16**  
**Penpal**                                       Javascript, PHP, MySQL  
*A web app to connect people learning a language with native speakers.*

- Full stack developer. Created an instant messaging platform between users from scratch.
- Implemented real time message translation using the Google Translation API.

**Jan '16 - Mar '16**  
**Pintos**                                                          C  
*Extended an operating system to allow threads to run concurrently.*

- Implemented both a priority scheduler with priority donation to avoid synchronisation problems and a multi level feedback queue scheduler that reduces average response time for running jobs on OS.
- Worked on virtual memory implementation to remove the limitation on number and size of user programs based on machine's main memory size.

**Oct '15 - Dec '15**  
**WACC Compiler**                                            Java, ANTLR  
*Developed a compiler from scratch for the university's C-like language.*

- Worked on syntactic and semantic analysis of input WACC program.
- Handled generating optimised assembly code for the ARM11 processor.
- Wrote Python scripts to automate testing of our compiler, which saved 3 minutes / run.
- Achieved 100% in the final report, which evaluates the implementation details of our compiler.

**Jun '15 - Sep '15**  
**Yost**                                               Swift, Xcode, Parse  
*A Silicon Valley project that won in the final round of Stanford Sharks.*

- Developed an iOS app for anonymous group messaging targeted at large communities.
- Pitched in front of 300 people including Steve Blank, Jackie Space, and Andrea Barrica.
- Invited to present at startX, an accelerator program at Stanford.

## EMPLOYMENT RECORD

**Oct '16 - Mar '17**  
**Undergraduate Teaching Assistant, Imperial College London**          Haskell, Java  
*Assisting first year students with weekly programming assignments.*

**Jun '16 - Sep '16**  
**Lead Developer, RentStream London**                        Ruby on Rails, Heroku  
*A web app to connect students (renting a property) with landlords.*

- Integrated third party SSL certificate, and custom website domain.
- Implemented and tested browser sessions, login/signup, account activation and password reset.

## AWARDS

**2014**  
Qualification for International Maths Olympiad Kangaroo.  
**2014**  
Excellence in Mathematics commendation. Ranked first in the year group.