

Muhammad Affan Qureshi

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EDUCATION

Imperial College London

MEng Electrical and Electronic Engineering

Oct, 2014 - June, 2018

London, UK

- 1st Class Honours

Beaconhouse Defence Lahore

GCE A-Levels

Sep, 2012 - June, 2014

Lahore, Pakistan

A* in Mathematics, Physics and Chemistry

A in Further Mathematics

- 3 A*, 1 A

Sharif Education Complex

GCSE O-Levels

Sep, 2009 - June, 2012

Lahore, Pakistan

- 4 A*, 2 A, 2 B

RELEVANT COURSES

Undergraduate

Algorithms and Data Structures

Algorithms and Complexity

High Level Programming

Embedded Systems

Computer Architecture

High Performance Computing

Networks and Web Security

Artificial Intelligence

Machine Learning

ML for Computer Vision

Human Centered Robotics

SKILLS

Programming

C++, F#, Python, Matlab, ARM

Assemble and Latex

Software

ROS (Robot Operating System),

OpenCL, Docker and git

Languages

English (fluent)

Urdu (native)

Arabic (elementary)

LINKS

Github:// [maqur](#)

LinkedIn:// [maqur](#)

PROJECTS

Formal Verification of POETS applications using TLA+

Final Year Individual Project | Oct, 2017 - June, 2018

- Specified three POETS applications in TLA+.
- Found bugs in two of the applications using the TLC model checker.
- Developed an alternate algorithm for one of the applications and verified it to be correct.
- Established that TLA+ is suitable for formally verifying POETS applications.

PillBot

Coursework for Human Centered Robotics | Oct, 2017 - Dec, 2017

- Built an interactive robot that could deliver pills to patients as part of a group.
- Implemented the complete navigation stack for the robot.
- Designed and implemented the state transitions needed for the robot to achieve the desired behaviour.

Autonomous Snack Delivery Android

Third Year Group Project | Apr, 2017 - June, 2017

- Developed a snack delivery robot that could autonomously navigate within the Imperial College EEE Building.
- Generated 2D and 3D maps of the surrounding using the Octomap and Hector mapping libraries.
- Implemented real time floor detection from the point cloud feed of Microsoft Kinect using the Point Cloud Library (pcl) and RANSAC algorithm.

ARM Assembler and Emulator

Coursework for High Level Programming | Feb, 2017 - Mar, 2017

- Built an ARM assembler and emulator for a subset of Cortex-M3 instruction set as part of a group.
- Implemented the complete emulator machine state and the execution of memory instructions.
- Used the FsCheck tool and Expecto library for testing.

WORK EXPERIENCE

Pepsi-Cola International | Operations Intern

July, 2016 - Aug, 2016 | Frito Lays Snacks Plant, Lahore, Pakistan

- Created a spreadsheet to record used supplies.
- Trained unskilled labour to use it.
- Introduced issuance slips for better accountability.
- Achieved 10% reduction in the monthly cost of operating supplies by making the maintenance process more efficient.

PowerSoft19 | Automation Intern

June, 2015 - Aug, 2016 | Lahore, Pakistan

- Automated testing of gas sensors used in the oil and gas industry.
- Made the Microsoft Windows GUI perform specific tasks using the AutoIt scripting language.
- Developed .NET applications.