# Harith Al-Safi

#### **Electronics and Computer Engineer**

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**Q** Leeds, UK

Portfolio: https://harith-alsafi.github.io/ Github: https://www.github.com/harith-alsafi

# About me

An engineer with a great enthusiasm towards data science and Artificial Intelligence. I post regular workout and nutrition contents. Am quite fervent about cryptocurrency trading and investment.

# Experience

## Software Engineer Intern Johnson Controls R&D department

- **♀** London UK
- Managed a 23-year-old C/C++ project called SEE whilst adding new fire detection algorithms and features requested by engineers and scientists
- Redesigned SEE with a full GUI interface in C# using .NET WPF with multithreaded design paradigm and serial communication for data extraction
- Engineered a scripting language with a custom Compiler used by engineers for implementing fire detection algorithms in SEE

### Software Developer Freelance **Paperound**

Mov 2021 - Feb 2022 **♀** Leeds UK

- Developed a book library management system in C
- Designed Python NumPy, SciPy and Scikit-learn scripts for data analysis and visualization
- Programmed simple PowerShell automation scripts to ease up system administration

## IT administration intern Mesopotamia Group

₩ Jun 2020 - Mar 2021

- Amman Jordan
- Produced a local file server on Ubuntu 18.04 LTS built using Apache and Nextcloud as the file browser
- Administered the system using bash scripts with SSH tunneling and port forwarding
- Engineered another version using a network interface card and a network attached storage.

## **MUN Conference Coordinator CHSMUN**

₩ Sep 2017 - Nov 2017

- **♀** Amman Jordan
- Organized modern united nation meetings
- Formalized professional conclusion reports after each meeting with statistical proof on each claim

# Education

## B.Eng. in Electronics and Computer **University of Leeds**

₩ Sept 2020 - June 2024 ✓ Y1: 88%, Y2: 79%

- Engineering and Discrete Mathematics
- Cloud and Parallel computing
- Electronics and Circuit analysis
- Communications and Signals
- Networking and Cybersecurity
- User interface and Compiler Design
- Microprocessors and Embedded systems

## Foundation in Engineering and Computing University of Leeds (LISC)

- Advanced Physics and Math
- Autodesk AutoCAD

## IB Science certificate **Cambridge High School**

math Sept 2017 - June 2019

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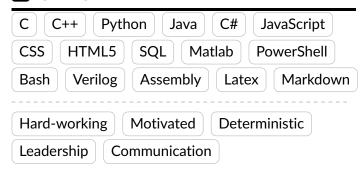
- Physics and Math
- Languages and Economics

# **Primary School** Cambridge High School

m Sept 2007 - June 2017

Basic primary school

# 🖴 Skills



# 🔼 Languages

**English** 

Arabic



# Projects

#### mcpp

- Apr 2021 Ongoing Personal
- Created a cross platform math library using C++
- Incorporated numerical algorithms revolving around matrix algebra, calculus and statistics.
- · Administered using Travis CI
- Tested using GoogleTest
- Documented using Doxygen and MkDocs
- · Regulated using git and Github

#### Jupyter Notebook Startup script

- Mar 2021 Ongoing Personal
- Integrated computational scripts for complex such as symbolic fourier series using Sympy
- Introduced a triangle calculator and visualizer
- Established a kinematics calculator and visualizer for projectile motion
- Simplified 3D implicit, parametric and vector plots with the use of Mayavi

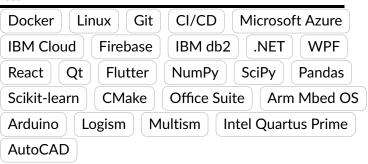
### Video Browsing library

- Programmed a user interface for a video viewing software using Qt with C++
- Achieved through effective communication with other teammates
- Established a PACT report discussing the implementation of the user interface
- Facilitated a creative design which implements the famous layout of VLC

#### **Embedded system**

- Developed an obstacle jumping game and timer
- Implemented a temperature and humidity detection system to avoid overheating
- Mapped several events to produce sound effects
- Operated on LPC1768 MCU with Mbed API
- restructured as a single file implementation

# Tools and frameworks



# Professional Courses

### Data Analysis with Python

#### ₩ Oct 2021

- Performing data wrangling such as formatting and pre-processing
- Statistical correlation between datasets such as the Chi-Square for categorical variables
- Modelling data into linear and polynomial regressions
- Model deployment using regression pipelines
- Model training and evaluation

# Databases and SQL for Data Science with Python Sept 2021

- Relational database structure
- Advanced SQL syntax and its integration with python
- Using SQL to retrieve selective data from CSV files

# Python for Data Science, Al & Development

- **Aug** 2021
- Basics of Python and object oriented programming
- Quick summary of pandas and Numpy
- Viewing projects such as retrieving cryptocurrency data

#### **Data Science Methodology**

- ₩ Aug 2021
- Understanding different approaches to data science
- Looking at case studies regarding data collection and requirements

#### **Tools for Data Science**

- ₩ Jul 2021
- Using Jupyter Notebook
- IBM tools such as IBM Watson Studio

#### What is Data Science?

- ₩ Jun 2021
- Introduction to data science and big data
- Structure of data science reports

#### Matrix Algebra for Engineers

- M Nov 2020 Jan 2021
- Basics of matrix algebra and properties of matrices
- Linear algebra and its use in statistical analysis