# Harith Al-Safi

**Electronics and Computer Engineer**

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## ⚡ 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 blockchain, trading and investment.

## 💼 Experience

| Frontend Developer | 📅 Aug 2023 - Dec 2023 |
|---|---|
| **Velz Travel** | 📍 Remote |

- Led a team to create a data science web app using Python Django, and Matlab for data analysis
- Supervised UI/UX designers on Figma designs whilst managing the developers
- Won multiple awards for the final delivery

| Software Engineer Intern (Placement Year) | 📅 July 2022 – July 2023 |
|---|---|
| **Johnson Controls R&D department (JCI)** | 📍 London UK |

- Administered legacy C/C++ projects whilst fixing bugs and adding new features
- Developed C# .NET library on serial data analysis generation for embedded system programs
- Designing analytics web dashboard with React JS and using TensorFlow for predictive AI
- Lead 10 interns to create a full business pitch and ended up placing 2$^{nd}$ amongst 18 competitors

| Software Developer Freelance | 📅 Nov 2021 – Feb 2022 |
|---|---|
| **Paperound** | 📍 Leeds UK |

- Developed a book library management system in C
- Designed Python NumPy, SciPy and Scikit-learn scripts for neural networks and data visualization
- Programmed PowerShell and bash automation scripts for system administration

| IT administration intern | 📅 Jun 2020 – Mar 2021 |
|---|---|
| **Mesopotamia Group** | 📍 Amman Jordan |

- Collaborated with a team to build a local file server on Ubuntu 18.04 LTS built using Apache and Nextcloud
- Administered the system using Bash and Nmap with SSH tunneling and port forwarding
- Engineered a complex version using a raspberry pie, network interface card and attached storage.

## 📖 Education

| BEng (Hons) in Electronics and Computer | 📅 Sept 2019 – June 2024 |
|---|---|
| **University of Leeds (UoL)** | ☑ First-Class Honors |

## 👤 Skills

C | C++ | Python | Java | C# | JavaScript | Dart | CSS | HTML5 | SQL | Matlab | Bash | PowerShell
Verilog | Assembly | Latex | Typescript

Hard-working | Motivated | Deterministic | Leadership | Communication | Problem solver

**English** ●●●●●
**Arabic** ●●●●●
**Spanish** ●●●○○

## 🗐 Projects

| JPS | 📅 Sep 2022 - Jul 2023    📍 JCI |
|---|---|

- Re-designed a legacy CLI project to a GUI with C# .NET WPF using MVVM and multithreaded design

- Invented an object-oriented scripting language with a custom compiler and runtime memory access.
- Integrated SQLite database, Excel I/O features, analysis tools and serial communication protocols
- Communicated with engineers to get a feedback loop on the app's design and features

### MCPP    📅 Apr 2021 - Ongoing    📍 Personal
- Created a cross-platform math library for C++
- Engineered with DevOps using Travis-CI, testing with GoogleTest and building with Docker Cmake
- Incorporated numerical algorithms revolving around matrix algebra, statistics and machine learning.
- Documented using Doxygen and MkDocs

### NotePad    📅 Nov 2021 - Ongoing    📍 Personal
- Programmed a cross-platform note app with Flutter
- Established backend using cloud authentication services with Firebase and storage with SQL CRUD
- Using the BLoC pattern for state management and the Provider package for dependency injection
- Used KerasRL library for reinforcement learning with human feedback to predict user's next note

### Home Automation Embedded System    📅 Jan 2021 - May 2021    📍 UoL
- Engineered circuits for I/O functionality using data sensors, potentiometers, buttons and resistors.
- Programmed control system for home appliances such as temperature, air conditioning and lighting
- Developed mini-OS using LCD display and joystick
- Operated on STM32 board, C++ on an ARM MCU

## ⬡ Tools and frameworks

Docker | Linux | Git | CI/CD | Microsoft Azure | AWS | IBM Cloud | Firebase | SQLite | IBM db2
.NET | WPF | React Js | Qt | Flutter | NumPy | SciPy | Pandas | ROS | Django | Scikit-learn | OpenCv
TensorFlow | KerasRL | CMake | Logism | Office Suite | Arm Mbed OS | Arduino | Multism | Intel Quartus |
AutoCAD | FPGA

## ✹ 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, AI & 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? <span>📅 Jun 2021</span>
- Introduction to data science and big data
- Structure of data science reports

## Matrix Algebra for Engineers <span>📅 Nov 2020 - Jan 2021</span>
- Basics of matrix algebra and properties of matrices
- Linear algebra and its use in statistical analysis

# 👥 Extracurricular