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 cryptocurrency trading and investment.

Experience

Software Engineer Intern
Johnson Controls R&D department

July 2022 – July 2023 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

Nov 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)

Sept 2019 – June 2020 93%

- Advanced Physics and Math
- Autodesk AutoCAD

IB Science certificate
Cambridge High School

Sept 2017 – June 2019 40/42

- Physics and Math
- Languages and Economics

Primary School
Cambridge High School

Sept 2007 – June 2017

- Basic primary school

Skills

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

Hard-working | Motivated | Deterministic | Leadership | Communication

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

Nov 2021 - Ongoing University

- 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

Jan 2021 - May 2021 University

- 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

Docker | Linux | Git | CI/CD | Microsoft Azure | IBM Cloud | Firebase | IBM db2 | .NET | WPF | React | Qt | Flutter | NumPy | SciPy | Pandas | Scikit-learn | CMake | Office Suite | Arm Mbed OS | Arduino | Logism | Multism | Intel Quartus Prime | AutoCAD

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?

Jun 2021

- Introduction to data science and big data
- Structure of data science reports

Matrix Algebra for Engineers

Nov 2020 - Jan 2021

- Basics of matrix algebra and properties of matrices
- Linear algebra and its use in statistical analysis