

Harith Al-Safi

📍 Leeds, UK 📞 +447444585915 @ harith.alsafi@gmail.com 🌐 https://harith.io/

Electronic & Computer Engineer | Software Developer 🐙 github.com/harith-alsafi 🌐 linkedin.com/in/harith-al-safi

📄 About me

An engineer with great enthusiasm towards data science and Artificial Intelligence. Some of my hobbies are working out, trading and investment. A deterministic outlook characterize my approach to tackling challenges.

📁 Experience

Software Engineer

📅 Sep 2024 - Ongoing

BT Group

📍 Manchester, UK

- Developed a multithreaded Java Springboot REST API's alongside PostgreSQL and MongoDB
- Implemented DevOps build deployments with maven, Typescript for automation, Docker and AWS Cloud
- Collaborated amongst a large team through agile development using Jira and Git
- Instructed apprenticeship students in understanding Java, multithreading and Polymorphism

Frontend Developer

📅 Aug 2023 - Nov 2023 (4 Months)

Velz Travel

📍 Remote

- Directed the frontend of a travel web app for a startup built with Next.js, React.js and Typescript
- Developed user interface using Material UI following Figma design guidelines and business logic using Node.js
- Collaborated with developers using Jira and Git whilst working on Java Springboot with PostgreSQL and Docker
- Delivered app through CI/CD, agile development, unit testing with 93% coverage and AWS deployment

Software Engineer

📅 July 2022 - July 2023 (12 Months)

Johnson Controls

📍 London UK

- Administered C \C++ projects while fixing bugs, adding features, refactoring and migrating 90% of codebase to C#
- Developed C# .NET libraries for fire detection simulations and data analysis improving operations by 32%
- Collaborated on an analytics web dashboard with React.js for predictive maintenance with dev ops and CI/CD
- Invented a custom scripting language with a compiler for C# app increasing development productivity by 40%
- Maintained Python automation scripts for automated builds of .NET applications and processing data with Azure
- Managed a team of 10 interns to create a business plan and ended up placing 2nd amongst the whole company

Software Developer Freelance

📅 Dec 2021 - Mar 2022 (4 Months)

Paperound

📍 Leeds UK

- Developed full stack web app using React.js, Next.js, MongoDB, auth0 for user authentication and REST API
- Created natural language processing applications using LLM's and Python for sentiment analysis and chatbots
- Built and trained a reinforcement neural network using TensorFlow, KerasRL for predicting stock prices
- Developed Serverless REST API with C # and Azure for IoT Sensors and data analytics using ASP.NET
- Developed low level ARM embedded systems with C whilst using memory allocation and register programming
- Engineered a high performance C++ linear algebra library for data science through Jenkins, Docker and Cmake

IT administrator

📅 Jun 2020 - Mar 2021 (10 Months)

Mesopotamia Group

📍 Amman Jordan

- Collaborated with a team to build a local file server on Ubuntu built using Apache and Nextcloud
- Administered the server using Bash, Python and Nmap with SSH tunneling and port forwarding
- Engineered a load balancer using MPI and C to distribute traffic between servers increasing availability by 34%
- Analyzed the network data logs using Python to predict and prevent cyber attacks
- Implemented Linux networking and protocols using IP addressing and routing for cloud hosting

📖 Education

BEng (Hons) in Electronics and Computer

📅 Sept 2019 - June 2024

University of Leeds (UoL)

✅ First-Class Honors (80 %)

- Embedded systems, Microprocessors, FPGA, Circuit Analysis, Signal processing, Networking, Compiler design
- Cloud and Parallel computing, Secure and Distributed systems, Cybersecurity, Software Engineering, Research

Skills and Languages

Technical:

C \ C++PythonJavaC#JavaScriptCI \ CDDevOpsBashLinuxDocker

AWSJiraGitTerraformsKubernetesMySQLMongoDBPostgreSQL.NET WPFReact Js

QT FrameworkFlutterFlaskExpress.jsSpringbootASP.NETKerasRLPytorchTensorFlow

OpenCvNode.jsOpenGLOpenMPCUDAFGPAArduinoBlenderPhotshopAutoCAD



Soft:

ManagementLeadershipMotivatedDeterministicCommunicationProblem solver



Languages:

Arabic (Full Professional)English (Full Professional)Spanish (Elementary)

Projects


MCPP: High Performance C++ Library for Numerical Computation Apr 2021 - Oct 2022 Personal

- Created a cross-platform math library for C++ used for matrix algebra, statistics and machine learning.
- Engineered with CI/CD using Jenkins, unit tests, Docker, Cmake, Doxygen and Git for version control
- Improved performance by 40% using parallel computing with OpenMP, OpenCL and CUDA


TBot: Machine Learning Stocks Trading Bot Apr 2021 - Oct 2021 Personal

- Developed gradient boosting machine learning model using Python and Scikit-learn for stock prediction
- Anlayzed and processed data using Pandas, Numpy and Scipy for training and testing the model
- Backtested the model using historical data and simulated trading using Python and Matplotlib
- Developed a REST API and a user interface to interact with the bot using AWS lambda, Flask and PyQT


Professional Courses

Data Analysis with Python Oct 2021

- Develop Python code for cleaning and preparing data for analysis
- Perform exploratory data analysis and analytical techniques to datasets using Pandas, Numpy and Scipy
- Manipulate data using dataframes, understand data distribution, perform correlation and create data pipelines
- Build and evaluate regression models using machine learning scikit-learn for prediction and decision making

Databases and SQL for Data Science with Python Sept 2021

- Analyze data within a relational database on the cloud using IBM DB2, SQL, Python
- Construct SQL CRUD operations and compose views, transactions, stored procedures and joins.

Python for Data Science, AI & Development Aug 2021

- Demonstrate proficiency in using Python libraries such as Pandas, Numpy, and Beautiful Soup
- Access web data using APIs and web scraping from Python in Jupyter Notebooks.

Awards

2nd highest mark on entire cohort Jul 2024

University of Leeds Leeds, UK


Future leaders top 3 May 2023

Johnson Controls London, UK

Best use of auth0 Feb 2023

Royal Hackaway v6 London, UK

Publications

Vega: LLM-driven Intelligent Chatbot Platform for Internet of Things Control and Development 2024

IEEE - 1st Author

- Developed a full stack chat bot web application with Typescript, React.js, Next.js, TailwindCSS and MongoDB
- Programmed language processing algorithms using large language models to interpret and execute messages
- Developed a Python Flask REST Server with SQLite on the Raspberry Pi to communicate with the chat bot
- Engineered a circuit with sensors, fans, LCD and buttons to execute the user's commands from the chat bot