Harith Al-Safi

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Electronic & Computer Engineer | Software Developer

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❏ 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

Frontend Developer
Velz Travel
Aug 2023 - Nov 2023 (4 Months) — 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 (Placement Year)
Johnson Controls
July 2022 - July 2023 (12 Months) — 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

Machine Learning Engineer Freelance
Paperound
Dec 2021 - Mar 2022 (4 Months) — Leeds UK

- Applied data visualization using Python Matplotlib to present analytical insights to non-technical stakeholders
- Created natural language proccessing applications using LLM's and Python for sentiment analysis
- Automated anlaytics workflow of balance sheets and cash flow statements using Python and data science
- Built and trained a reinforcement neural network using TensorFlow, KerasRL for predicting stock prices
- Engineered a high performance C++ linear algebra library for data science through Jenkins, Docker and Cmake

Forex Day Trader
ICMarkets FX
Mar 2021 - Nov 2021 (9 Months) — Leeds UK

- Researched financial factors such as interest rates, GDP, inflation, and employment to predict market trends
- Conducted quantitative research on statistical methods and their applications in financial markets.
- Designed a trading strategy using technical, fundamental analysis whilst simulating risk assesment with Python
- Traded indices, commodities and forex pairs using leverage and margin with a risk management strategy
- Engineered a trading algorithm using Python and Quantitave Analysis for automated trading and backtesting

IT administrator
Mesopotamia Group
Jun 2020 - Mar 2021 (10 Months) — 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
University of Leeds (UoL)
Sept 2019 - June 2024 — ☑ First-Class Honors

- 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++ | Python | Java | C# | JavaScript | Linux | Docker | Azure | AWS | Jira | Git | Jenkins | Terraforms | Kubernetes | SQLite | MySQL | MongoDB | PostgreSQL | .NET WPF | JavaFx | React Js | QT Framework | Flutter | Flask | Springboot | ASP.NET | NumPy | KerasRL | Matplotlib | Pytorch | SciPy | TensorFlow | Pandas | OpenCv | CMake | Node.js | OpenCL | OpenGL | OpenMP | CUDA | Arm Mbed Os | Arm Keil | FPGA | Verilog HDL | Arduino | Blender | Photshop | AutoCAD

Soft: Management | Leadership | Motivated | Deterministic | Communication | Problem 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, Flask and PyQT

Vega: LLM Chat Web App for IoT Circuits   📅 Oct 2023 - Jun 2024   📍 UoL
- Developed a full stack chat bot web application with Typescript, React.js, Next.js, TailwindCSS and NoSQL
- Programmed natural language processing algorithms using LLMs to interpet and execute user 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

✹ 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.

👥 Extracurricular

AI Agent hackathon   📅 Mar 2023
Lablab   📍 Remote

Web Developer hackathon   📅 Feb 2023
Royal Hackaway v6   📍 London, UK

Event Coordinator Volunteer   📅 Jan - 2023
IEE RAS ICRA   📍 London, UK