Riccardo **El Hassanin**

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Multi-disciplinary engineer driven by a passion for novel and cutting-edge Machine Learning/AI technologies. Known for tenacity and relentless commitment to quality and continuous learning, blending technical, analytical and research skills with creative problem-solving.

EDUCATION

Master of Engineering (MEng) in Electrical and Electronic Engineering *2019 – 2023*
Imperial College London LONDON, UK
- Classification: **First Class Honours**
- **Relevant Modules:** Machine Learning, Deep Learning, Artificial Intelligence, Advanced Signal Processing, Embedded Systems, Computer Vision and Pattern Recognition, Data Processing, Optimisation, Coding Theory, Corporate Finance.
- **MEng Thesis:** proposed a novel Complex-valued Deep Canonical Correlation Analysis (CDCCA) model that leveraged the power of statistical tools and complex-valued neural networks to study the intrinsic relationships between the components of time series datasets and yield better performance than current real-valued networks.

International Baccalaureate (IB) Diploma *2015 – 2019*
Gems World Academy DUBAI, UAE
- Total Score: 43/45 | Higher Level Subjects: Mathematics (7/7), Physics (7/7), Business Management (7/7) | Salutatorian Award (2019)

WORK EXPERIENCE

Machine Learning Engineer – Contractor *October 2023 – January 2024*
FireX.ai LONDON, UK
- Developed machine learning algorithms for processing satellite imagery to aid the assessment of wildfire risks and employed cutting-edge deep learning techniques for environmental risk analysis and disaster mitigation.
- Gained practical experience in implementing complex algorithms and leveraging deep learning frameworks in cloud environments, writing high quality and modular python code in a fast growing start up.
- Acquired a strong sense of organization and respect for deadlines and milestones by experiencing the fast pace and dynamic environment.

ARM Project Consultant *May 2022 – July 2022*
Imperial College London – ARM LONDON, UK
- Led a team of 6 to build an open-source software and data processing model to perform local speaker recognition in near real-time, which correctly identified 90% of speakers in roughly 1.3 seconds per inference.
- Developed a Python algorithm to extract acoustic features from voice spectrograms using a sophisticated convolutional neural network, significantly enhancing speaker identification through robust data analysis, image processing, and predictive modelling techniques.

Undergraduate Researcher *June 2021 – September 2021*
Imperial College London LONDON, UK
- Processed data returned from NASA's Mars' InSight mission to disentangle the seismic signals from Martian environmental interferences and uncover significant patterns by applying data processing and statistical methods in MATLAB.
- Contributed to team research and enhanced communication skills delivering report, collecting results and research findings.

PROJECTS

NotiSound - Smart Sound Recognition Device *January 2022 – March 2022*
- Collaborated with a team of 4 to develop a smart sound recognition device that classifies doorbell and fire alarm noises in a house environment by building a system that requires low-latency processing and innovative data handling techniques.
- Effectively managed my ability to work collaboratively, improved technical, analytical and research skills within a team.

Mars Rover Project *May 2021 - June 2021*
- Worked in a team of 6 to design and build an autonomous Mars Rover prototype using Arduino, able to analyse data from various sensors to work remotely without supervision, avoid obstacles in its vicinity, build a map and store data of its travelled path.

SKILLS

- Proficient in **Python** with expertise in **PyTorch** and **TensorFlow** for **Machine Learning** and **Deep Learning applications**, as well as **NumPy, Pandas, SciPy, scikit-learn** for **data analysis** and **manipulation.**
- Skilled in **C++** for high-performance, scalable software development and **MATLAB / Simulink** for modelling and simulations.
- Experienced with **Linux** and **Git** for software development, version control, and system administration.
- Familiar in web development technologies including **HTML, CSS,** and **JavaScript** for front-end design.
- Proficient with **Arduino** and **Raspberry Pi** in building and programming embedded systems.
- Adept at using **Microsoft Office** for documentation and presentations, and familiar with **CAD** for engineering designs.
- Skilled at **self-teaching** novel concepts for new projects, with significant experience in collaborating and leading diverse teams.
- **Languages** – Italian: native | English: fluent | Spanish: intermediate