Abdelrahman Khalafalla

akhalafalla5@gmail.com— linkedin.com/in/abdelrahman-khalafalla— AbdelrahmanKhalafall.github.io

Education

Cyprus International University , Master in Electrical & Computer Engineering — Feb 2026 - Feb 2028
Cyprus International University , Bachelor in Electrical & Electronics Engineering — Mar 2021 - Jan 2025

Experience

Machine Learning Engineer , Elevvo Pathways – Cairo, Egypt — Aug 2025 – Jan 2026

- Designed and deployed predictive ML models for company's sales forecasting
- Tuned hyperparameters and optimized model performance using advanced techniques
- Implemented data augmentation strategies to improve model robustness
- Collaborated with cross-functional teams to integrate ML solutions into existing systems

Hardware Engineer, Turkcell – Nicosia, North Cyprus — Jan 2024 – March 2025

- Designed multi-layer PCBs using Altium Designer and KiCad
- Designed and developed a multi-layer circuit boards of Iot devices
- Collaborated with cross-functional teams (Mechanical and software) on designing Iot projects
- Conducted testing and validation of hardware components to ensure reliability and performance

Electrical Engineer Intern, Turkish Electrical Corporation – Kyrenia, North Cyprus — June 2023 – Sept 2023

- Collaborated in the design and implementation of electrical systems for various projects
- Developed understanding of power system structures and quality assessment methods, including symmetrical and unsymmetrical fault analysis
- Designed and implemented PLC-based automation for a production line, improving efficiency and minimizing manual errors
- Conducted maintenance and repairs on electrical equipment to ensure consistent operational performance

Projects

AI Prosthetic Hand Controlled Via The Peripheral Nervous System — Feb 2024 – July 2024

- Developed a Deep Learning model to classify EMG signals and control the prosthetic hand to perform the intended gestures
- Collected EMG signals for nine distinct hand gestures from volunteers and developed a machine learning model, achieving validated accuracy on independent participants
- Developed a signal acquisition system to capture EMG signals from targeted muscles and translate them into motor commands for prosthetic hand control via servo motors

Techno-Economic Analysis of Standalone off-Grid Smart Parking lot in a Smart City — March 2023 – May 2023

- Proposed a sustainable smart city solution by designing a smart parking system with integrated EV chargers to address global energy demands
- Designed an off-grid solar power system for a smart parking lot, utilizing HOMER Grid software to optimize system sizing and efficiency
- Performed a techno-economic analysis considering capital investment, operating costs, and payback period to assess system feasibility

Technical Skills

Programming & Machine Learning Frameworks: Python , SQL, Tensorflow , Pytorch , Matlab , JavaScript
Data Visualization: Plotly/Dash , Matplotlib , Seaborn
Hardware Design Tools: Altium Designer , KiCad , LTSpice