Abdelrahman Khalafalla

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Education

Cyprus International University Haspolat, Lefkoşa, North Cyprus
Bachelor of Science in Electrical and Electronic Engineering March 2021 – Jan 2025
Awards & Honors: Faculty Of Engineering Honors List, CIU-WINDCOM First Place Developer
SET EVENT: CIU MATLAB CODEATHON BEST INNOVATIVE PROJECT AWARD

Experience

Machine Learning Engineer , Elevvo Pathways – Egypt, Cairo Aug 2025 – Present

- 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