Ahmad Nayfeh

Electrical Engineer | AI & Signal Processing Focus
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Professional Summary

Electrical Engineer with a focused specialization in artificial intelligence, signal processing, and computer vision. I integrate engineering logic with deep learning and image analysis to develop optimized, practical solutions for complex challenges in energy, automation, and intelligent systems

Education

Master of Science, Electrical Engineering **Aug 2024 – Present**
King Fahd University of Petroleum and Minerals *Dhahran, KSA*

Bachelor of Science, Electrical Engineering (Second Honor) **Sep 2018 – Jan 2024**
King Fahd University of Petroleum and Minerals *Dhahran, KSA*

Experience

Teaching Assistant: Fundamentals of Electric Circuits **Sep 2024 – May 2025**
SDAIA-KFUPM Joint Research Center for Artificial Intelligence *Dhahran, KSA*

- Developed teaching materials and problem sets, improving student performance
- Held weekly office hours supporting 50+ students in understanding key concepts
- Assisted faculty with grading and provided constructive student feedback

AI Research Intern – Waste Management Systems **Jun 2023 – Aug 2023**
SDAIA-KFUPM Joint Research Center for Artificial Intelligence *Dhahran, KSA*

- Built YOLOv8 + classifier pipeline on 10k+ annotated images, improving F1-score by 2%
- Applied data augmentation and class balancing to improve model generalization
- Evaluated ResNet50, EfficientNet, and others with systematic hyperparameter tuning

Key Projects

Real-Time Road Crack Detection & Classification (B.Sc. Senior Project) **Aug 2023 – Dec 2023**

- Led 4-member team; integrated RGB-D camera with YOLOv8 model (74% mAP)
- Enhanced depth accuracy using signal denoising and image preprocessing techniques
- Rebalanced dataset and performed QA on 12,000+ samples from RDD2022 benchmark

Gamified AI Recycling Bin – ACT28 Hackathon (Samsung & UNDP) **May 2024 – Jun 2024**

- Developed AI model for smart bin in a 3-member team using deep learning
- Curated and augmented a diverse waste image dataset; achieved 95% accuracy
- Ranked among top teams 3 across GCC & Turkey; invited to Samsung Dubai for showcase

Wind Power Forecasting (LSTM & Random Forest) **Jan 2023 – May 2023**

- Built hybrid LSTM–RF model for time-series wind power forecasting
- Preprocessed meteorological data (cleaning, resampling, scaling, imputation)

Certificates

Google Project Management Professional Certificate *(Coursera)* **July 2024**
Renewable Energy Technology Fundamentals *(Coursera)* **Jun 2024**
Google Data Analytics Professional Certificate *(Coursera)* **Feb 2024**