Ahmad Nayfeh

Electrical Engineer | M.Sc. Candidate (AI, CV & DSP Focus)
Dhahran, Saudi Arabia | ahmadnayfeh2000@gmail.com | +966500380453
Linkedin| Personal Website | GitHub

Professional Summary

M.Sc. Electrical Engineering candidate focusing on AI, computer vision, and signal processing. Gaining experience through hands-on projects in deep learning, data-driven modeling, and image analysis. Interested in applying engineering principles to develop practical and scalable solutions for real-world challenges.

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

AI Research Intern – Waste Detection & Classification **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%
- Curated and balanced dataset using augmentation (flips, rotation, blur) to improve model robustness
- Evaluated ResNet50, EfficientNet, and Swin-Transformer for post-detection classification accuracy

Teaching Assistant – Fundamentals of Electric Circuits **Sep 2024 – May 2025**
KFUPM, Department of Electrical Engineering *Dhahran, KSA*

- Developed structured visual materials and guided students through problem-solving techniques
- Held weekly sessions supporting 50+ undergraduates in understanding concepts in-detail

Key Projects

SimCLR Augmentation Analysis – CIFAR-10 (Self-Supervised Learning) **Feb–May 2025**

- Extended a PyTorch-based SimCLR framework to evaluate different augmentation effects
- Customized data augmentation pipeline (solarize, blur, erase, etc.) and ran subset training (5–25%)
- Applied linear evaluation with top-1 accuracy tracking via CSV logs and custom visualization plots

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

- Collaborated in a 3-member team to design a gamified interface for real-time waste segregation
- Developed ResNet50-based classifier in PyTorch, achieving 95% accuracy
- Ranked among top 3 teams across GCC & Turkey; invited to Samsung Dubai for showcase

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

- Achieved 74% mAP in identifying crack types and severity under real-world conditions
- Developed custom image preprocessing and denoising algorithms to improve depth-based predictions
- Led dataset restructuring and quality control over 12,000+ samples from RDD2022

Certificates

Intro to Deep Learning & Neural Networks (Keras) – *Coursera (IBM)* **July 2024**
Google Data Analytics Professional Certificate – *Coursera* **Feb 2024**
Supervised Machine Learning: Regression & Classification – *Coursera (Stanford)* **Jun 2023**