Ahmed Radwan

Computer Science

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PROFILE

I am a computer scientist specializing in AI and data science. With expertise in machine learning, natural language processing, and backend development, I have successfully executed various innovative projects. My dedication to continuous learning is demonstrated through advanced courses in AI and data science. Additionally, I contribute to community and educational initiatives through volunteer work.

EDUCATION

Computer Science 2019 – 06/2024
King Abdulaziz University
4.98 GPA

WORK EXPERIENCE

Research Intern 05/2024 – Present
KAUST, Information Science Lab Thuwal, Saudi Arabia
- Developed AI components for a mobile app designed to track and notify users about Rak'ah completion during Salah using smartphone IMU sensors.
- Initiated the project by collecting, cleaning, and testing data from accelerometer and gyroscope sensors.
- Created initial motion recognition algorithms based on collected IMU data.
- Currently implementing real-time processing systems to enhance accurate state identification.
- Integrating error detection mechanisms aimed at identifying and correcting movement deviations.

Research Assistant Intern 02/2024 – Present
KAUST, Professor Mohamed-Slim Alouini Lab
- Focused on reducing energy and computational power for NLP tasks.
- Utilized federated learning, optimization, and quantization techniques.
- Conducted joint research between AI and communication fields.

Researcher 09/2023 – Present
Asas.ai
- Developing Applications Utilizing Large Language Models, and Improving Arabic Language Representation.

Head of AI Unit 09/2023 – 06/2024
Drone and Robotics Aziz Group at KAU
- Manage a team of 50 members, overseeing their development and preparing them for participation in hackathons.
- Teaching Introduction to AI, Computer Vision, and TinyML bootcamps.
- Part of the AI team participating in the SUAS 2024 Competition.

Artificial Intelligence Intern 07/2023 – 08/2023
KAUST Thuwal, Saudi Arabia
- Deep Learning: Gained insights into autoencoders, VAEs, and GANs, exploring unsupervised learning and generative modeling.
- Reinforcement Learning: Explored models and strategies to find optimal policies in dynamic environments.
- Graph Neural Networks: Learned GNN concepts and implemented them in a movie recommendation system.
- Natural Language Processing (NLP): Worked on projects involving text analysis, sentiment analysis, and language modeling to process and understand human language.

Teaching Assistant 03/2023 – 03/2024
KAUST Academy Thuwal, Saudi Arabia

- Introduction to Artificial Intelligence Course: Calculus, Linear Algebra, Machine Learning, and Deep Learning.
- Advanced Artificial Intelligence Course: CNNs, Dataloading, AutoEncoders, Segmentation, Object Detection.

PROJECTS

SARD: Image-Inspired Narratives
Developed a drag-and-drop system to help the writers. Utilized LLMs to produce a coherent story using Images and Relations.

Addressing Bias Through Ensemble Learning and Regularized Fine-Tunin
Enhancing model Performance with Regularized Fine-Tuning and Ensemble Learning for Improved Accuracy using small datasets.

Compact Multimodal Threat Detection System
Developing a compact Multimodal for cyclists that uses audio-visual data to detect road threats, efficiently running on Arduino for real-time alerts.

Skin Cancer Image classification
Developed a model for image classification using data loading techniques and Convolutional Neural Network using Keras.

COURSES

TinyML Course 01/2024 – 02/2024
KAUST Thuwal, Jeddah

Mathematics for Machine Learning and Data Science Specialization
DeepLearning.AI

Machine Learning Specialization
DeepLearning.AI

AWARDS

1st Place Winner for 2024 Student Games
Orgenized By International Society of Automation and Sponsored by Aramco
Developed an AI-driven system, named GreenSightAI, to enhance greenhouse crop cultivation through early disease detection and state assessment, reducing labour costs and improving yield quality.

1st Place Winner at 'Sehah Thon 2'
Ministry of Health with Ministry of Hajj and Umrah
Developed an AI system to detect individuals needing immediate assistance and pinpoint their geographic location. This solution enhances emergency response efficiency using advanced AI and geolocation technologies.

TECHNICAL SKILLS

Data science and AI libraries
Python, Pandas, Sklearn, Pytorch, TensorFlow, and Keras

Artificial Intelligence
Machine Learning, Deep Learning, Computer Vision, NLP, CNN, RNN, Transformers, GANs, Diffusion models, LLM, HuggingFace.

LANGUAGES

English
IELTS 7.5/9.

Arabic
Native.