KARIM KOHEL

🌐 Karimkohel.com   🐙 karimkohel   ✉ kareemkohel@gmail.com   📱 +2 01091752193

EMPLOYMENT

Researcher	AUC, EG	2023 – Present

- Built a real-time system that measures and processes eye tracking to investigate human psychology.
- Delivered a talk on the use and my implementation of eye tracking in skill acquisition research at the AUC cognitive psychology conference for field professionals.
- Co-authoring a paper on the use of eye gaze tracking technology to explore human cognitive psychology, aimed at gaining a deeper understanding of how people interact with computer interfaces

Project Co-owner	Infoplay, SWE	2023

- Developed a custom Linux image for hundreds of Raspberry Pis, used in ferry boats ad screens across Sweden
- created ad-player algorithm, design and scheduling system ensuring flexible queue control.
- Implemented custom management and deployment of remote player and system services via web-portal.

ML & DevOps Intern	Synapse Analytics, EG	2023

- Maintained and updated the main product deployment strategy alongside the product owner using ansible.
- Designed the architecture of a new ML model for the flagship company product, boasting an accuracy of 98.9% with custom collected suit of image data that is tailored to match clients' cases.

EXTRA-CURRICULAR

Software & AI Team Leader	Roben, EG	2019 – 2023

- Taught a team of 38 software engineers image recognition using Open-cv, G-streamer and TensorFlow
- Interviewed 150+ candidates for the team over 4 years, recruited 46 Core team members.
- Led the team in 9 competitions including: Arab IOT & AI, Mate ROV and Military UAV competition.

Professional DJ	Scratch Media Productions	2017 – 2019

- Stared in over 27 events, 3 proms and 1 wedding.
- Co-organized 12 events and handled sound equipment negotiations for all events.

EDUCATION

UK	University of Northampton	2018 – 2023
Egypt	Arab Academy for Science, Technology & Maritime Transport	2018 – 2023

- Dual B.S.E. degree in Computer Engineering, Core GPA: 3.4

TECHNICAL PROJECT EXPERIENCE

- Cornea (2023). Built a custom multi-modal AI model architecture for Gaze tracking with multiple inputs to optimize use of a single generic web-cam, as a system service for any OS. Python, TensorFlow, sklearn.
- Python Library ROVLIB (2022). Built and published the multiplatform library ROVLIB to control and monitor under water vehicles using flight com. protocol MavLink on RasPi4. OpenCV, PyMavlink, systemd, sockets.
- UAV Surveillance System (2020-2021). Managed a team of 14 software engineers while building a socketed OpenCV imaging system that sends footage from fixed wing UAV back to ground station for analysis. Trained YOLOv4 object detection using mixture of over 6000 synthetic and 800 real world images to achieve an accuracy of 96%. YOLOv4, Pytorch, Numpy, Docker, Raspberry Pi, Gstreamer.

ADDITIONAL EXPERIENCE AND AWARDS

- Mate ROV Competition (2022): Awarded 4th place for under water robotics competition, out of 17 teams
- Military UAV Competition (2021): Won 3rd place at the MTC International Unmanned Arial Vehicle competition.
- Research Paper Conference (2021): Awarded best scientific paper at MTC scientific research conference.
- IBM Cloud Master (2020): IBM Cloud mastery certificate holder for the IBM Cloud and Watson AI exam.

LANGUAGES AND TECHNOLOGIES

- Python, C/C++, JavaScript, Java, bash, Arduino C, x86 assembly.
- OpenCV, TensorFlow, Numpy, Pandas, Django, Frappe, Requests, Multiprocessing, Sockets, Selenium.
- Git, Linux, Docker, Ansible, Gstreamer, OMX, Prometheus.