

KARIM KOHEL

 Karimkohel.com

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EMPLOYMENT

Researcher *AUC* *2023 – Present*

- Built a real-time system that measures and processes eye tracking to investigate human psychology.
- Delivered a talk on the use of eye tracking in cognitive psychology 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

ML & DevOps Intern *Synapse Analytics* *2023 – 2023*

- Maintained and updated the main product deployment strategy along side 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* *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 8 competitions including: [Arab IOT & AI](#), [Mate ROV](#) and [Military UAV competition](#).

Professional DJ *Scratch Media Productions* *2017 – 2020*

- 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: 3.6

TECHNICAL EXPERIENCE

Projects

- [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.
- [Infoplay Signage](#) (2023). Developed custom OS image for hundreds of Raspberry Pis, used in ferry boats ad screens across Sweden; created ad player design and scheduling system ensuring flexible queue control. Managed system configuration remotely via shared backend server for ad clients. Linux, python, systemd.
- [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): Lead the AI team to win 3rd place at the Military Technical College (MTC) International Unmanned Aerial 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, x86 assembly.
- Git, Linux, OpenCV, TensorFlow, Django, Requests, Ansible, Multiprocessing, Sockets, Gstreamer, OMX.