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KARIM KOHEL

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EMPLOYMENT

Software Engineer Intern — **Methode Electronics** — **2021 – 2021**

- Built, alongside a team of 3 software engineers, the company factory data warehouse solution.
- Migrated the internal company codebase to GitHub.
- Built, alongside a team member, the main authentication server for the company.

EXTRA-CURRICULAR

AI Team Leader — **Roben** — **2019 – Present**

- Taught a team of 28 software engineers image recognition using Open-cv, G-streamer and TensorFlow
- Interviewed 51 candidates for the team, recruited 26 Core team members.
- Led the team in 6 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 – Present**

Egypt — **Arab Academy for Science, Technology & Maritime Transport** — **2018 – Present**

- Dual B.S.E. degree in Computer Engineering, Core GPA: 3.5.

TECHNICAL EXPERIENCE

Projects

- **AI Powered Voice Chat Assistant** (2021). Trained, and built alongside 3 software engineers, a 3-layer Dense Neural Network as a centralized online backend with custom API functions that allow the bot to help around on a client's machine by opening up new GitHub projects or downloading and playing music on voice commands. Python, TensorFlow, Speech Recognition, Json, Sockets, APIs, Pyttsx3.
- **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 94% on prediction and localization. YOLOv4, Pytorch, Numpy.
- **ROV Cameras Network** (2019 – 2021). Built, a custom network script that forwards up to 5 streams from on vehicle USB cameras to up to 253 clients on the same network with zero latency using OpenCV that was compiled from source to accommodate the G-streamer backend. Python, Docker, Raspberry Pi.
- **Freelance Web-Developer** (2020-2021). Built and served 4 clients' commercial websites that receive regular traffic over the years. Python Django, Node.js, Linode, Heroku, Linux server, SQL ORM.
- **Python Library ROVLIB** (2022). Built and published the multiplatform library ROVLIB to control and monitor under water vehicles using flight communication protocol Mavlink. OpenCV, PyMavlink, systemd, sockets.

ADDITIONAL EXPERIENCE AND AWARDS

- **Mate ROV Competition (2021):** 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 Arial Vehicle competition.
- **Research Paper Confrence (2021):** Awarded best scientific paper at MTC 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, x86 assembly, bash.
- Git, Linux, Py-OpenCV, Django, TensorFlow, Docker, Express, Sockets, GTK++, Gstreamer.