

Abdulaziz EL Sabbagh

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<https://abduls-portfolio.vercel.app>

Education

Bachelor of Computing Science (Honours)

February 2020 - November 2024

University of Technology Sydney (UTS)

Major: Artificial Intelligence and Data Analytics

GPA: 6/7

WAM: 81

Technical Experience

Programming Languages: Python, Javascript/Typescript, Swift, Dart, SQL, Java

Frameworks/Libraries: Pytorch, Tensorflow, Keras, Flask, OpenCV, Matplotlib, Pandas, Scikit-learn, React

AI Models Trained: YOLO, CNNs, GANs, U-Net, Faster R-CNN, Mask R-CNN, OpenPose & many more

Other: GCP, Nextjs, Vercel, Conda, AWS, Render, Knime, Devops

Projects

Honours Project

November 2024

- Designed and implemented a drone-based system to enhance bushfire detection and emergency response using AI.
- Curated and annotated a bespoke aerial imagery dataset to train and evaluate three AI models (YOLOv8-Seg, Mask R-CNN, U-Net) for fire and smoke detection, with YOLOv8-Seg emerging as the most effective.
- Developed a web application for live monitoring, automated alerts, and communication with affected communities, significantly improving response times and situational awareness.

Capstone Project

March 2024

- Led a team of 7 in developing a personalized AI powered chatbot tutor for stage 6 Mathematics students in preparation for the Higher School Certificate (HSC).
- Analyzed major commercially available vision agents & built a mobile application using Xcode, Firebase & Claud AI.
- Integrated four agents: Data Collection, Tutor, Progress Tracker, and Question Generator.

InkVision (iOS app)

September 2023

- Won the UTS AI Showcase, InkVision is a virtual reality app allowing users to virtually try on tattoos on forearms
- Trained on a dataset of 1000+ captured and annotated images, creating a CNN leveraging TensorFlow for accurate forearm prediction
- Created initial prototype with, Python, Flask, Matplotlib, NumPy, and OpenCV; finalized as a robust iOS app more than 350 downloads

Traffic Sign Detection

July 2023

- Created a road sign detection model targeting 3 YOLO architectures (v3, v5, v8) with other architectures for comparison
- Classified road signs into 4 classes: Prohibitory, Danger, Mandatory, and Other categories, ensuring comprehensive coverage and accuracy
- Executed data preprocessing and image resizing of 900 images, boosting system performance, validated by detailed metrics in project repository

Related Experience

Student Ambassador University of Technology Sydney (UTS)

May 2024 - Current

- Represented UTS at various events, showcasing strong communication, leadership, and organizational skills while fostering engagement with prospective students.
- Conducted workshops on advanced topics like "Bad USB" and led interactive sessions on drones and AI, engaging high school students in hands-on learning experiences.
- Directed a team for the setup and coordination of a building during UTS Open Day, ensuring smooth operations and a positive visitor experience.

supervisor/customer service Event Services Australia (ESA)

June 2022 - February 2023

- Accurately prepared and packed orders for dispatch, maintaining high attention to detail.
- Efficiently managed inventory, including receiving, storing, and organizing goods to ensure smooth warehouse operations.
- Conducted routine inspections to maintain safety and cleanliness in the warehouse, adhering to workplace health and safety regulations.

Warehouse Staff Staff Australia

Feb 2019 - March 2023

- Implemented, and coordinated strategic pre-flight planning for specialised drone operations, ensuring safety and compliance with regulations
- Operated drones for commercial photography, videography, and data collection with 2 chief pilots
- Performed scheduled drone maintenance, analysed aerial data, and provided 1 on 1 training to pilots on specialized software (DJI GO4)

Remote Pilot UAVAIR

January 2019 - December 2019

- Implemented, and coordinated strategic pre-flight planning for specialised drone operations, ensuring safety and compliance with regulations
- Operated drones for commercial photography, videography, and data collection with 2 chief pilots
- Performed scheduled drone maintenance, analysed aerial data, and provided 1 on 1 training to pilots on specialized software (DJI GO4)

Certifications

- First aid certificate
- Certificate in Machine learning using SAS Viya
- Aeronautical Remote Operators Certificate (AROC)
- Cert III in remote pilot (VLOS)
- Wandb certified in building llm powered apps
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Referees

Hiep Khac Vo - Phd Researcher: 0493303476
Abdul Qadeer Mohammad – Operations Manager: 0451 763 476
Isaiah - ESA Manager: 0432 554 826