Mohamed Ahmed Ali

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Skills

- **Programing**: Python, Matlab, C/C++
- **Framework and libraries**: Pandas, NumPy, SciPy, matplotlib, TensorFlow, Keras, PyTorch, OpenCV, SQL
- **Others**: GitHub, Docker, LaTeX, Linux
- **Design**: Ansys, Femap, Simulink, Solidworks, proteus

Projects

Simulating Steering Wheel Inputs Through Webcam for Racing Games   April 2022

- Used Python MediaPipe to track and calculate the angle of each hand to represent a steering wheel
- Used the resulted data to simulate the keystrokes of keyboard and joystick

3D Jaws Segmentation From DICOM files Using PyTorch (Notebook)   Mar 2022

- Built a neural network that utilize U-net architecture with EfficientNet as encoder
- Trained the model on 3 orthogonal axes Axial, Coronal and Sagittal
- Achieved average of 95% dice score across the 3 axes on the validation set

Neural Style Transfer Using Convolution Neural Network (Notebook)   Mar 2022

- Used VGG-19 architecture as a backbone for NST
- Combined style and content images to form a new generated image

Melanoma (Skin Cancer) Classification Using TensorFlow   Feb 2022

- Applied data cleaning techniques using Pandas to setup the metadata.
- Tested different approaches to deal with imbalanced data including focal loss, class weighting and over sampling.
- Achieved F1-score of 93% on the validation set

Implementation of Various Image Processing Algorithm Research Papers   Feb 2022

- U-net for medical segmentation in PyTorch python
- YOLO for object detection in real-time
- VGG, ResNet and GoogLeNet/InceptionNet CNN implementation

Facial Verification, Computer Vision Project Using Python   April 2019

- Used Python OpenCV and Dlib library to develop a facial detection and verification script based on histograms of oriented gradients (HOG) feature descriptor.

Extracurricular Activity

Co-Founder of Techquotes YouTube Channel   Jan 2016 - Present

(A YouTube channel about technology; news, reviews, unboxings, thorough commentaries and educational videos)

- Led the video editing aspect of the YouTube channel
- Reviewed scripts and maintained quality of the final product
- Helped the growth of the channel which achieved 350,000+ current subscribers

- ## Education

- **Cairo University – Faculty of Engineering**   Sep 2017 - Aug 2021
- Bachelor of Science – Aerospace Engineering   Giza, EG