

Ahmed Achraf A.

Personal information

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About me

Artificial intelligence intern, I have a diploma in AI field, complemented by a proficient understanding of implementing ML and DL algorithms. This academic background lays a solid groundwork for my continued exploration and advancement in the dynamic realm of this field.

I believe that I have the necessary skills and experience that would make me a valuable member of any team, I'm a highly motivated individual who is dedicated to my work.

Education

Sep 2019 - Jun 2024 **Bachelor's degree of Science - B.Sc. in Biomedical Engineering Specialization, Helwan University**

Courses, Diplomas and Certificates

Feb 2024 - To date	Advanced Computer Vision with TensorFlow Image classification, image segmentation, object localization, and object detection. Apply transfer learning to object localization and detection. Apply object detection models such as regional CNN family. Implement image segmentation using variations of FCN including U-Net and Mask-RCNN.	19 hours
Apr 2023 - Jun 2023	TensorFlow 2.0: Deep Learning and Artificial Intelligence Udemy ANNs, DNNs, CNNs, RNNs, NLP and GANs. Transfer Learning to create state-of-the-art image classifiers. Recommender Systems and Image Recognition. Use TensorFlow Serving to serve your model using a RESTful API. Use TensorFlow Lite to export your model for mobile (Android, iOS) and embedded devices. Use TensorFlow Distribution Strategies to parallelize learning. Low-level TensorFlow, gradient tape, and how to build your custom models.	23 hours
Sep 2022 - Mar 2023	Deep Learning Specialization from Stanford University Coursera COURSE 1: Neural Networks and Deep Learning. COURSE 2: Improving DNN: Hyperparameters Tuning, Regularization and Optimization. COURSE 3: Structuring Machine Learning Projects.	140 hours

COURSE 4: Convolutional Neural Networks.

COURSE 5: Sequence Models.

at Mar 2023	Business Communication Skills Certificate with British International Accreditation	
Nov 2021 - May 2022	Artificial Intelligence Diploma from Instant Institute Python Basics – Data Science – Machine Learning Algorithms – Deep Learning Algorithms	120 hours
Mar 2021 - Mar 2021	Bioinformatics crash course Python – Machine learning – DNA Analysis – Genome Sequencing	8 hours

Internships

- Artificial Intelligence trainee at the **Ministry of Youth Academy for Huawei HCIP-AI Exam.**
- Artificial Intelligence Intern at **Children's Cancer Hospital Egypt 57357.**
 - Identify the need for Artificial Intelligence in healthcare.
 - Recognize how health informatics is transforming the healthcare ecosystem.
 - Identify the advancements of artificial intelligence.
 - Classify examples of AI in healthcare.
- Artificial Intelligence trainee at **Instant Institute.**

Latest Projects

Automotive radar object detection

- Radar signals obtained using Fourier Transformation after successive FFTs get two spectra, The Range Doppler spectrum has a relation between distance and speed, and the Range Azimuth spectrum also represents the environment with distance and angle of arrival.
- My contribution is, that I noticed that the overlapping of the frames could be a feature so I'm working on implementing LSTM-CNN to achieve better performance.
- Another idea to do is to maximize the benefit of camera images by changing the arch. by one I was inspired.
- **Significant tools:** Kaggle, PyTorch, Detectron2.

Driver's Seat: Vital Signs from skin texture using a camera established in the vehicle

Capsule Endoscope: Build and deploy a real-time model in ESP-32 Cam that classifies and localizes GI tract disorders.

- Fine-tuned 5 pre-trained models and acc reached 92.53% Image classification.
- Object detection & segmentation on one class due to the limitation of annotations.
- NLP API to write a medical report about examination findings.
- Deployment in ESP-32 with taking consideration of microcontroller aspects (**memory, computational power...etc.**) and then integrating it with the Flutter desktop application to display a GI tract stream.
- **Significant tools:** TFLite, Sklearn, Colab, Kaggle API, Flutter.

Heart rate and some vital signs: PPG Signal peak algorithm implemented from scratch

- The algorithm's idea is detecting beat onsets by a slope sum function with adaptive thresholding used to identify systolic upslopes in this signal, between two consecutive onsets the maximum value should be the peak.
- My contribution is, implementing the whole algorithm in Python.
- **Significant tools:** MatLab, Python, NumPy, Scipy Libraries.

Scrap data from the transferMarket website about Summer Football 2022

- Regex techniques used to extract data from the site.

- A Wide Stage of Data preprocessing was applied.
- Implement simple linear regressor, XGBoost Algorithm, and build Neural Network with acc 98.99%.
- **Significant tools:** Selenium, BeautifulSoup, requests, pandas, and Sklearn.

Kidney disease classification

- A CNN was fine-tuned on the number of Conv layers, FC layers, and FC neurons on activation function and used many techniques to avoid generalization error.
- EfficientNetB0, DenseNet, InceptionNetV2, VGG19, mobileNetV3, and ResNet pre-trained models were used and DenseNet achieved 99.60% F1-Score.

Camps

- 1000 Artificial Intelligence Engineers Initiative with Graduation project under the supervision of Eng. Hesham Asem.
- Ai CAMP in the Medical Field with Biomedical Engineering and Technology organization at the **Faculty of Engineering, Cairo University**.
- Biomedical Training (BMC CAMP) at the **Faculty of Electronic Engineering, Monufia University**.

Skills

- Excellent in English skills
- C, C++, and Python programming languages.
- Advanced proficiency with machine learning frameworks TensorFlow, Keras, PyTorch, and libraries such as Scikit-learn, and OpenCV.
- Good understanding of computer vision tasks, libraries, and frameworks.
- Proficiency in version control systems such as Git, familiar with GitHub and GitLab.
- Good knowledge of OS like Windows and Linux administration.
- Familiar with SQL, and MongoDB.
- PowerPoint, Word, and Excel.
- Analytical and problem-solving capability skills, and awesome research skills.
- Good communication and collaboration skills.
- I have a genuine interest in learning and Reading Scientific Articles.
- Good time management, Presentation Skills, Planning, and organizational abilities.
- Self-motivated with a go-getter mindset and a high sense of ownership and teamwork.