mahmoud ghareeb

Machine Learning Engineer

mahmoudghareeb11111@gmail.com +201029912688 Cairo, Egypt LinkedIn Github

Kaggle LeetCode

EDUCATION

Pursuing Master Of Science in Computer Engineering, Jan 2024 – present
Ain Shams University

Computer Engineering Bachelor's Degree | Very Good | Honors, Sep 2015 – Jun 2020
Kafr El-Sheikh University

PROFESSIONAL EXPERIENCE

Machine Learning Engineer, *Cybernet AI* Feb 2024 – present | Almaty, Kazakhstan

- Changed the company's strategy regarding TTS models, which saved the company almost 50% of its cost and a huge increase in quality, making it land its biggest deal.
- Developed a real-time ASR model for the Egyptian dialect, achieving a 0.17 WER, using in-house data and optimized for CPU inference.
- Developed a TTS model for the Egyptian dialect for a specific domain; the model is good enough that most company employees thought it was human, not AI.

Deep Learning Engineer, *Zedny* Dec 2023 – May 2024 | Cairo, Egypt

- Accelerated inference time and enhanced model performance for the lib-syncing pipeline from a 1-hour video of lib-syncing taking 30 hours to just 10 hours.
- Implemented Generative Adversarial Networks (GANs) to elevate the quality of generated frames, contributing to an advanced and efficient system.
- Fine-Tuned TensorFlowTTS model to support the Arabic language.
- Created a chat model that answers a user's questions on a book he uploads using lib-synced video in real-time.

Session Lead, *Udacity* Nov 2023 – present

- Responsible for delivering weekly online technical sessions for the programming fundamentals Nanodegree.
- The session topics were about Python, Data Analysis, Web Design, Cybersecurity, and AI.

Artificial Intelligence Engineer Intern, *RadicalX, Remote* Oct 2023 – Dec 2023

- Leveraged technologies such as OpenAI and TensorFlow to develop an AI Dev Manager
- created algorithms for personalized and adaptive learning

Software Engineer Officer, *Army* May 2021 – Sep 2023

- Led and monitored network infrastructure construction in the 2nd Army and many other projects.
- Built a system for registering inventory devices.

PROJECTS

Mentor Bot, *OpenAI, Streamlit, Pandas, Scraping*

- Developed a Streamlit-based application designed to assist programmers in preparing for data analyst interviews.
- Implemented web scraping techniques to aggregate relevant interview questions and data from various websites.
- Spearheaded the development of a behavioral interview module within the app, utilizing the STAR method to evaluate interviewees' responses, enhancing their ability to structure effective and impactful answers.

Extract Arabic Date From National ID Image, *MobileNetV3, LSTM, Attention, Flask*

- Model architecture is Encoder-Decoder with Attention
- Got 100% accuracy on the test set
- Deployed the model using tf_lite and flask, resulting in a 40% reduction in processing time and improved scalability for real-time predictions.

Real-Time Car Plate Detection And Recognition, *YOLO, Python, OpenCV*
- Built a Car Plate Detection Model
- Built Character Recognition Model
- Combined the two models to get the characters of the plate license in real-time

Neural Machine Translation, *Tensorflow, Numpy, Transformers, T5*
- Trained a transformer model from scratch to translate Spanish to English as suggested in the “Attention is all you need” paper.
- Trained a transformer using the HF transformers library.

Remove Noise From Image Using GANS, *Generative AI, Auto Encoder, CNN, UNet*
- Used Auto Encoder(AE) to remove noise from an image
- Created another model that utilizes the encoder latent vector to predict the class of the image
- Achieved 99% accuracy on the test set

Implementation Of Stable Diffusion Model, *Pytorch, Numpy*
- Implemented Stable Diffusion components, including VAE, CLIP, and UNET.
- Wrote tests for each component.

Implementation Of LLaMA2 Inference Model, *Pytorch, Numpy*
- Read the paper "Llama 2: Open Foundation and Fine-Tuned Chat Models"
- Implemented LLaMA2 inference model

SKILLS

Deep Learning Frameworks
Tensorflow, Pytorch

Computer Vision
YOLO, UNet, MobileNet, VGG, VIT

Model Deployment
Flask, TF-lite, ONNX, Tensorflow-JS, Compression, Quantization and Pruning

Programming Languages
Python, Javascript, SQL, C++, HTML, CSS

Audio
TTS (Text To Speech), ASR (Automatic Speech Recognition), VAD (Voice Activity Detection), and RVC.

Natural Language Processing (NLP)
Transformers, RNN, LSTM, NLTK, Seq-To-Seq models

Generative Models
GANs, VAEs, AR, LLMs

Problem Solving
Top 4% on leetcode

CERTIFICATES

- Deep Learning Specialization on Coursera
- Practical Machine Learning for Data Scientists
- Deep Learning for Computer Vision
- Deep learning for natural language processing
- TensorFlow: Data and Deployment Specialization
- NLP Course from Hugging Face
- Deployment of Machine Learning Models

AWARDS

Ranked 3rd in The Japanese University for graduation projects

Top 4% on LeetCode

LANGUAGES

- Arabic
- English