Ahmed Nabil Atwa

AI RESEARCH ENGINEER

Details

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Links

Kaggle

GitHub

Stack Overflow

LinkedIn

Dr. Ahmed Studies Discord Server

Skills

- Python
- Pandas
- Numpy
- Pytorch/torchvision
- Tensorflow/Keras
- NLTK
- wandb/matplotlib/seaborn
- Gym
- SQL

Profile

I am a Researcher Engineer/AI Engineer who worked on several production projects. My strong point and projects' specification are in NLP (Starting from text classification, Seq-to-Seq, Transformers, R/G, until prompting with GPT-3). I have worked on a Knowledge graph, Generative QA, LFQA, Metaphor, emotion/text classification, time series, human detection, NER, Feature Extraction, AI intelligence Search, bulk text embedding, paraphrasing, summarization, chatbots, and more. I am confident about working in different fields in AI, and I am willing to bring my best to the table.

Employment History

Teacher Assistant at Arab Academy for Science, Technology & Maritime Transport, Alexandria, Egypt

SEPTEMBER 2022 — PRESENT

Educating Information Systems & Artificial Intelligence Curriculum.

Data Scientist | AL Research Engineer at Upwork/Fiverr, Remote

JULY 2021 — PRESENT

- I have achieved many projects in NLP. Those projects are; 1. Article Generator. 2. Bulk Article Generator. 3. Text Summarization. 4. Virtual Fiction characters simulation. 5. Product Descriptive modelling. 6. Chatbots; (I. Philosophical Chatbot. II. Descriptive User-bot algorithms (DUB). III. Recommendation DUB. IV. Memorization DUB. V. Human raise DUB Retriever.) 7. Recommendation letters. 8. Blogging and SEO generator. 9. Advertisment Generator.
- I built deep forecast prediction models for a client based on the top 10 Nasdaq tickers using trading and TI datasets. My client was impressed by the profits he made from this google cloud-based application.
- I have worked on image classification, image detection, and Object detection using PyTorch/TF.
- My key to success in any project is understanding the business requirements and the vision of the client.

Business Development Manager at Beauty On-Demand, Cairo, Egypt

MARCH 2018 — MAY 2021

- We achieved creating a database for the company to facilitate product creation.
- Strategized and implemented new ways to maintain resume and project information on over 1,000 entries.
- We have achieved more than +11,000 products using Excel, excel-VBA, Excel Formulas, and Photoshop for high-quality product pictures with the team I was responsible for; it was great news for the company that was new in the digital market.
- It was tough making our tangible products available to broad users. I was capable of supplying more than 10k digital products from my company to our vendors. (accurate Information about each product within its images).

Business Info. System (Remote) at Sephora-Toi, Cairo, Egpt

OCTOBER 2016 — FEBRUARY 2018

- I've Created +2,000 Digital Products.

Education

Bachelor's Degree, Arab Academy for Science, Technology & Maritime

Transport, Alexandria

SEPTEMBER 2015 — JULY 2019

Bachelor's Degree in Information Systems & Computer Science

Graduated with Excellent with honours.

Master of Science, Arab Academy for Science, Technology & Maritime Transport, Alexandria

OCTOBER 2022 — PRESENT

Master of Science in Enhanced Information Systems with applying AI.

Courses

Google Professional Machine Learning Engineer, Google Cloud

SEPTEMBER 2021 — JANUARY 2022

IBM Python Data Science, edX IBM

SEPTEMBER 2020 — MAY 2021

EMC Academic Associate, Data Science and Big Data Analytics, EMC Education Services

SEPTEMBER 2018 — JANUARY 2019

Internships

Data Scientist Intern (Remote) at iSmileTechnologies, Chicago, U.S.

AUGUST 2021 — JANUARY 2022

Built an automated time-series ML system for stock movements and integrated earning forecasting.

What I am proud of in Research & Projects

A. Deep Statistical Modelling

I. *Contrastive Learning with Time-series*

- Conducted time series contrastive modelling to identify different characteristics of the datasets.

II. *Forecasting Stock market Movements*

- *Building production deep learning statistical time-series forecaster to forecast the top 10 tickers on the Nasdaq market using TF API on Google Cloud.*

C. Computer Vision:

I. *From photorealistic to Artistic*

- I was working with a research team to develop Imagen to take it to another level of texture and coherency.
- I was capable of train the model on 250k LAION-Dataset out of 2B samples of text-image model based on 2 U-nets for testing purposes using x3 3090 Ti for 6 hours as Alpha phase 01, and on x10 A40 GPUs for 24 hours as Alpha phase 02 and we still on the progress.

D. Natural Language Processing:

I. *The Assistant King (Chatbot Imitates famous writer and starts human-to-human conversation) using GPT-3*:

- I created the chatbot's algorithm that mimics a famous writer so that I can give great bits of advice to the user about how to write down the best novel they are looking for (e.g. my chosen writer in the app is Stephen King).
    - *Repos*: https://github.com/Deepprakash222/DeepGpt3Learning

II. *(Contributor on) Haystack*:

- Responsible for debugging and updating the out-source notebooks, besides building a custom pipeline for the repository.
- Built Stand-out production image for Movie reviews that incubates four languages transformers and zero-classification sentiment analysis piped in one architecture. - Designed to tackle a process of 1k requests in approx 21 seconds using CPU, and approx 4 seconds using GPU.
    - *Main Repos*: https://github.com/deepset-ai/haystack
    - *Movie Reviews Repos*: https://github.com/AI-Ahmed/movie-reviewer

III. *Published Linguistical Similaritiy model based on Glue QQP dataset:*

- Published on Hugging Face: https://huggingface.co/AI-Ahmed/deberta-v3-base-funetuned-cls-qqa

B. Reinforcement Learning

I. *Apply DQN/DDQN– an approximate Q-learning algorithm with replay memory and the target network.*

- Building a Reinforcement Learning Algorithm capable of solving one of the famous Atari games called Breakout using Deep Q-learning, or DQN, adding an extra sausage algorithm called Dueling Deep Q-learning.

II. *Behavioural Agents with Intrinsic Curiosity Module algorithm.*

- Instead of rewarding consistent episodic rewards to the agents and controlling them with random constant coefficients, I provided them with the capability to explore and exploit based on sparse intrinsic reward with the extrinsic reward. - The approach is to give the agent the capability of deciding by itself based on intrinsic reward for each action taken and state approach.

III. *Applying the Asynchronous Advantage-Actor Critic (A3C) algorithm on a batch of Atari 2600 environments running in parallel*.

- I implemented the paper by adding some extra sausage; First, I used gradient approximations to calculate the loss of the policy and not the differences to ensure I considered into my account the uncertainty of approximated actions by the network. Second, I followed the Nature DQN instead of Targeted DQN to value the algorithm on base DQN.

IV. *Applying (A3C) algorithm with POMDP on Atari game Environment.*