Karim Tarek

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https://github.com/KareimGazer

Education

Abdo Basha, Cairo **Ain Shams University** **Sept 2017 - July 2022**

- **Major**: Electrical Engineering BSc. Accumulated Grade: **Very Good**
- **Certificate (Minor):** Computer Engineering
- **Programming Coursework**: Software Engineering, Operating Systems, Data Structures and Algorithms, C++, Neural Networks, Compilers, Networks.
- **EE Coursework:** Computer Arch, Embedded Systems, Signal Processing, Control Systems, Logic Design, Circuits, Electronics.

Certificates

- Udacity Web Development Advanced Nano-degree (Udacity)
- Software Design and Architecture specialization (Coursera)
- Data Structures and Algorithms specialization by HSE and UC San Diego (Coursera)

Experience

Autonomous Driving Image Processing using GPUs **Siemens** **Oct 2021 - Current**
Graduation Project Sponsered by Siemens in which we implement image stitching, lane detection, and traffic signs recognition using NVIDIA GPUs and CUDA APIs to achieve real-time performance via high-performance computing techniques.

AWS Machine Learning Foundation Nanodegree Program **AWS** **June 2021 - Oct 2021**
Learned ML pipeline, built and deployed ML models on AWS DeepLens (**computer vision**), DeepRacer (**Reinforcement Learning**), and DeepComposer (**GANs**). Learned software engineering best practices, and **OOP** with **python**.

FWD web Advanced Internship **ITIDA** **Aug-sept 2021**
built dynamic web apps and user interfaces like a Twitter clone and polls competition website, Used web APIs to run NLP on websites, and learned React, Redux, and web pack.

Software Projects

GitHub Repo: https://github.com/KareimGazer

Tiny-Scanner https://github.com/KareimGazer/Tiny-Scanner
Implementation of the scanner part of a compiler for the Tiny language. We exceed basic implementation by handling Error detection, text Buffers, end of file (EOF), and reserved lookups.
Utilized: CLI, C/C++, regex, DFAs, Git, documentation, debugging, Compilers.

NLP-with-MeaningCloud https://github.com/KareimGazer/NLP-with-MeaningCloud
A website that allows users to run NLP on articles and blogs, The backend uses MeaningCloud Sentiment Analysis API and runs using Nodejs and Express. This project was built using Webpack V5 and tested using Jest.
Utilized: NLP, APIs, NodeJs, Express, Webpack, Jest.

Would You Rather https://github.com/KareimGazer/would-you-rather
This is a Website where users can make new polls and other users can vote. Users can see the results only after submission. There is a leaderboard where the most helpful users are shown. This project is the final assessment project for Udacity's React-Redux course.
Utilized: React, Redux, NPM, middleware.

XML Editor https://github.com/KareimGazer/XML-Parser
A desktop app that corrects XML files, removes extra spaces, formats the file, converts to JSON format, and compresses/decompress the files. files are compressed to half the space.
Utilized: GUI, C/C++, C#, regex, Huffman Code, Git, documentation, debugging

Parallelism with Intel: https://github.com/KareimGazer/Parallelism-with-Intel
Solved High-Performance Computing (**HPC)** problems using **openMP** and **MPI** like a 1-D random walk, filtered multiple 1-D datasets, applied Fast Fourier Transforms (**FFTs**) on multiple large datasets, used MPI to simulate vibrating string with non-uniform linear density evolving in time using Finite Difference Method (**FDM)**
Utilized: C++, OpenMP, MPI, Distributed programming, Multithreading, Concurrency.

Skills

Proficient:

- **Tools:** C/C++, CUDA, Python, Git, Numpy, Pandas, Linux.
- **Concepts:** Machine Learning, Neural Networks, OOP, Data Structures, and Algorithms, HPC.

Good:

- **Tools:** Matlab, matplotlib, Networkx, Tensorflow.
- **Concepts:** Troubleshooting, Design Patterns, Image Processing, Visualization, Digital circuits design, Computer Arch.