Karim Tarek

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Education

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

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

Experience

AWS Machine Learning Foundation Nanodegree Program **AWS** **June 2021 - current**
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**.

Machine Learning Developer By Google, Intern **Google** **Jan - Feb 2021**
Deployed **Tensorflow** Models, Analyzed real-world data using **SQL**, configured **Dataproc clusters**, Used **APIs** to analyze text and images.

Software Projects

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

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

GPS Tracker https://github.com/KareimGazer/GPS_TRACKING_FINAL_PROJECT
Interfaced **GPS** module with **ARM** microcontroller via **UART** to get coordinates and store it in **EEPROM**. the user can move and the path will be stored. The device is connected to the computer and data is collected from the virtual port using **Python Serial Lib**. The user's path is displayed and compared against other apps.
Utilized: Ublox NEO GPS module, ARM Cortex-M, C/C++, Python, GPIO, UART, EEPROM, JTAG.

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)** on Colfax cluster via SSH into the remote machine.
Utilized: C++, OpenMP, MPI, Distributed programming, Multithreading, Linux, Scientific Computing.

Skills

Proficient: C/C++, Python, Java, OOP, Matlab, Git, Unix/Linux, Design Patterns, Data Structures and Algorithms, Verilog, Digital circuits design, ARM, Computer Arch
Good: Machine learning, troubleshooting, TensorFlow, pandas, NumPy, matplotlib, networkx.