Islam Mohamed Mosaad

Mobile Number: (+2)01142014109 **Date of Birth:** 17 July 1994

Email: islam.mohamed.mosaad@gmail.com **LinkedIn:** Islam's LinkedIn Profile

Github: Islam's Github Profile

Education:

Master, Faculty of computer and information sciences, Cairo University (2017 - present)

- Computer science department.
- Premaster mention: very Good (82.16).

Bachelor, Faculty of computer and information sciences (2016)

- Computer science department.
- Excellent graduation project grade.
- Total grade: Good.

High school certification, Mohamed fared school, Math section (2012)

- Grade : 94%

Experience:

Senior NLP Researcher and Software Development Engineer at RDI Full-Time (January/2017 - Current)

- My main is working on NLP techniques and algorithms.
- Achieved state-of-the-art in Arabic Diacritization (Tashkeel).
- Worked and researched on Dialect (Egyptian/Gulf) Arabic Sentiment Analysis using Deep Neural Network.
- Worked on Optical Character Recognition (OCR) for Arabic and English (Type Written) using Deep Neural Network.
- Worked on Arabic Automatic Speech Recognition (ASR) using Hidden Markov Model (HMM), Deep Neural Network and Mel-frequency Cepstral Coefficients (MFCCs).
- Worked on English Speech Recognition with different experiments and techniques.
- Worked on Audio De-noising module (Speech Enhancement) using Generative Adversarial Networks (GANs)

Senior Machine Learning Engineer at Lyra Analytics Part-Time (January/2020 - Current)

- Contribute on building neo.tax AI product.
- My main role is working on Natural Language Processing (NLP) tasks and research.

Junior Developer at Microsystem-EG Full-Time (September/2016 - January/2017)

- Participated in building the company ERP (confer with systems analyst, programmers and others to design and develop system to obtain information on project limitations – Design and develop software systems using scientific analyst to predict and measure outcome of design).

Qualifications:

- **Languages:** C/C++, Python, Matlab, C#.
- **Concepts:** OOP, Algorithms, Data Structures, Parallel Programming, Image Processing, Machine Learning.
- **Technologies & Tools:** Scipy, Numpy, IPython, Scikit-Learn, Flask, Keras, PyTorch , OpenGL, Git, Github.

Projects:

- **Audio Search by Voice (Graduation Project)(Python – C++):**
  - Audio search system on coursera lectures Dataset.
  - Implement feature extraction techniques like Mel-frequency Cepstral Coefficients (MFCCs) and spectrogram of waves from scratch.
  - Apply image processing methods on input spectrogram.
  - Use target zones concepts strategy to determine Keyword position on the audio.
  - Train neural network model on sample of frames of MFCCs.

- **Image processing packages(Matlab - C#):**
  - Implement geometry operations (Bilinear scale, Bilinear rotation, Bilinear shear, Bilinear ALL (scale, rotation, shear)).
  - Implement Pixel Operations (Drawing the Histogram, Contrast, Brightness, Gamma, Gray, Not, Add 2 Images, Subtract 2 Images, Bit-plane slicing, Quantization).
  - Implement Neighborhood Operations ((LinearFilter function with any mask size, mask origin & post-process) Mean Filter, Gaussian Filter, Laplacian Sharpening, Sobel Horizontal Edge, Sobel Vertical Edge , Sobel Edge Magnitude).

- **Face Recognation(C++):**
  - Implement PCA Algorithm [for features reduction] and LDA model [for classification] from scratch for applying through face recognition problem.

- **Object Detection and Recognation(C#):**
  - This project is to build an object recognition system that can pick out and identify objects from camera image (recognize objects that trained on it before).Use Scale Invariant Feature Transform (SIFT) algorithm to extract features of an image then use classification algorithm to recognize objects such as Back-propagation – Support vector machine – redial basis function.

- **Fos Operating System(C):**
  - A command-line 32-bit operating system that implements process execution and memory management using panging and we used many page fault handler algorithms like lcu replacement, clock replacement, first fit replacement, best fit replacement and worst fit replacement.

- **Packman Game(C++ - SFML):**
  - A similar game to the well-known pack-man with the main idea of the four ghosts chasing the Pac-man that his main goal is to collect all the points from the map without being caught by the ghosts.

Certifications:

- Complete Machine Learning foundation course and regression course in university of Washington (2016)
- ACM National Contest, 35th place /120. (2014)
- ACM Local Finals Contest, 4rd place /30. (2014)
- ACM Senior GUC training qualification contest, 7th place /35. (2014)
- ACMASCIS Junior Contest, 10th place /50. (2013)

Extra-Curricular Activities:

- Project member in open source community.
- Participated in Resala's events and many variant charitable activities.
- Active member on various online judges. (UVA, Code Forces, SPOJ and A2).
- Playing tennis.