Gad Mohamed Gad computer engineer

BACHELOR | NILE UNIVERSITY

2017 - 2021

Major: Computer Engineering | CGPA: 3.85

with a merit-based full scholarship for academic performance

BACHELOR | MUST 2015 - 2017 Major: Electronics and Communications Engineering, CGPA: 3.95

G. Gad, A. Annaby, M. Saeed, NK. Negied, "real time lane instance segmentation using SegNet and image processing" in IEEE Novel Intelligent and Leading Emerging Sciences, 2020.

- Languages C++ (mainly), Python, C, and Java
- TensorFlow, Keras, scikit-learn, ROS2, Cadence, Xilinx, and MATLAB
- Excellent command of English.

Computer vision and Robotics Engineer at Vortex

Oct. 20- present

working in the software department of the RoboSub 2021 competition AUV team.

Computer vision Engineer trainee at Vortex

Sept. 20- Oct. 20

I worked on projects in teams to assess technical and soft skills.

After this phase, selected candidates will join the RoboSub 2021 AUV team.

Intern at WINC, Nile university & ASRT

June. 20- Jul. 20

- A joint research project for modeling Covid-19 spread then record and track cases.
- My duty was to design & implement a blockchain network using RSA encryption.

Junior teaching assistant, Nile university

Sept. 19- Jan. 20

Supervised students in the linear algebra course project.

Intern at National Research Center (NRC)

Aug. 19- Sept. 19

- Attended sessions by members of research centers at NRC and ERI.
- Participated in an edge detection project on FBGA.

Participant at IBM blockchain development workshop

Feb. 19

worked with IBM engineers on a car agency management system using Hyperledger.

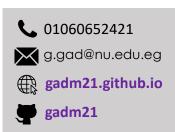
| | Awards & nonours | |
|---|--|----------|
| • | TICO innovation competition award | Nov. 20 |
| • | Best Poster Award at the NRSC2020 conference | Sept. 20 |
| • | 3 rd place in IT&CS track in the Egyptian junior researcher competition | Aug 20 |
| • | Electronics Research Institute Internship certificate | Aug 19 |
| • | 1st place in "Networking" course project in the Undergrad Research Forum | Jul. 19 |
| • | Blockchain Developer exploratory & mastery badges from IBM | Feb. 19 |
| • | Scientific Research Fundamentals camp certificate from NU | Aug. 18 |
| | | |

MOOCS

- Deep learning specialization
- TensorFlow developer professional certificate
- Al in medicine specialization
- **Software Testing fundamentals**
- Software test management
- Blockchain: foundation & use cases
- Introduction to Genomics technologies
- Responsive website development basics

- MCIT AWS machine learning training program(ongoing)
- Advanced data analysis nanodegree (ongoing)
- Formal test verification (ongoing)
- Advanced machine learning specialization (ongoing)

- Writer in Nu-Insider newspaper (university newspaper)
- Competed in ACM competitive programming competition and passed the qualifications phase to the ECPC.
- Competed in Google's Code Jam competitive programming competition and passed the qualifications phase.



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Picked projects

Graduation project: Real-time Crash avoidance system using CV and AI:

- **GP1** implemented, tested, and presented perception algorithms: Lane detection, depth estimation, Traffic sign classification, and Car detection & tracking and control algorithms: Model predictive control (MPC).
- **GP2** started with the objective of refining GP1 results by using deep-learning based methods and integrating results in an efficient pipeline. Many DL approaches were explored, YOLOv3 & LaneNet were used, and published a paper entitled: "real-time lane instance segmentation using SegNet and image processing".

Machine learning projects

- Video labeling using attention mechanism (ongoing)
- Image captioning using transfer learning (pretrained InceptionV3) and LSTMs
- Covid19 spread prediction using seg2seg model
- Text summarization of customer reviews with seq2seq with attention
- Face Recognition using Haar Cascade classifier and PCA
- Lane instance segmentation
- Noisy MNIST classifications using KNN and evaluated with LOO cross validation, all without using and libraries.
- Risk modelling using tree-based models
- YOLOV3 detection pipeline using keras & Pytorch

Other projects implemented throughout my study

- Server/client Machine Instruction Interpreter with CPP:
 - Following OOP concepts like abstraction, inheritance, polymorphism, and encapsulation
 - · Used UML diagrams to demonstrate relation and communication between objects
 - · Implemented features like multithreading, TCP socket connection, and affinity setting
- Designing ALU with different adder families (CLA, RCA) on Cadence Virtuoso
- · Making a Sign language translator gloves: python, Arduino, MPU, Bluetooth

Projects can be found on <u>GitHub</u> and some are documented on my <u>website</u>