Gad Mohamed Gad Computer engineer

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 gadm21
in gadm

EDUCATION

BACHELOR | NILE UNIVERSITY (transferred from MUST) 2017 - 2021
Major**: Computer Engineering** | CGPA: 3.88
with a merit-based full scholarship for academic performance

BACHELOR | Misr University for science and technology 2015 - 2017
Major**: Electronics & Communication Engineering** | CGPA: 3.95

Publications

- 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.

Skills

- **Languages** C++ (mainly), Python, C, and Java
- **Tools** TensorFlow, Keras, scikit-learn, OpenCV , ROS2, Cadence, Xilinx, and MATLAB
- Excellent command of English (IELTS: 7.5).

Experience

Machine learning intern at UN ESCWA and UN OICT Nov. 20- present
- Working on satellite imagery analysis for urban development.

Computer vision & robotics Intern at Vortex Sept. 20- present
- Working in the software department for the RoboSub 2021 competition AUV team.

Blockchain researcher at WINC, Nile university June. 20- Jul. 20
- A joint research project (ASRT & Nile university) for modeling Covid-19 spread, 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 projects.

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 & honours

- TICO innovation competition award Nov. 20
- Best Poster Award at the NRSC2020 conference Sept. 20
- 3rd 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
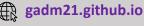- Scientific Research Fundamentals camp certificate from NU Aug. 18

MOOCS

- Deep learning specialization
- TensorFlow developer professional Cert.
- Advanced data analysis nanodegree
- AI for medicine diagnosis
- 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)
- Formal test verification (ongoing)
- Advanced machine learning specialization (ongoing)
- AI for medicine prognosis (ongoing)

Extracurricular activities

- 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.

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

- Lightweight video labeling (ongoing)
- Brain Tumor segmentation for MRI
- Chest x-ray medical diagnosis. With evaluation & visualization using AUROC & GradCAM
- Image captioning using transfer learning (pretrained InceptionV3) and LSTMs
- Lane instance segmentation
- Covid19 spread prediction using seq2seq model
- Text summarization of customer reviews with seq2seq with attention
- Face Recognition using Haar Cascade classifier and PCA
- 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 GitHub and some are documented on my website**