

Name: Mohamed Maher Zenhom Abdelrahman



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DOB: 03/05/1995

EDUCATION

2018 – 2020

Master of Computer Science, Data Science

Specialization, University of Tartu (CGPA: 5.0/5.0 – Honors: cum laude)

Thesis Topic: [Instance-based label smoothing for better classifier calibration](#), Supervisor: [Meelis Kull](#)

2013 - 2018

Bachelor of Communications and Information

Engineering, University of Science and Technology at Zewail City (CGPA: 3.86/4.0 – Honors: summa cum laude)

WORK EXPERIENCE

07/2021 - Current

Data Scientist, [Giza Systems \(Solutions By STC\)](#), Cairo, Egypt

Responsibilities:

- Data Team Lead at the software development center at Giza Systems.
- Building advanced analytics machine learning models for real-time forecasting of time-series data in smart industrial cities.
- Writing technical write-ups for new business opportunities.
- Making design documents for big data projects.
- Benchmarking anomaly detection models for time series data.
- Data migration, integration using different big data tools.
- Designing the solution architecture for the advanced analytics components in industrial digitalization platforms.
- Building data team capacity and capabilities through making hiring and learning plans.
- Building the data team career path and conducting technical interviews for recruitment.
- Teaching and mentoring interns at the headway program for the data team.

Involved Projects and Roles

- *Data Team Lead* in [MODON](#), Smart Industrial Cities in KSA.
- *Data Architect* in the Intelligent Transportation System of the New Administrative Capital of Egypt ([ACUD](#)).
- *Data Scientist* in Predicting throughput of radio cells in collaboration with Nokia and STC
- *Data Architect* in building intelligent threat management system with Ministry of Interiors in KSA (MOI).
- *Data Track Coordinator & Instructor* at Headway Internship program.
- *Data Team Lead* in Industrial Digitalization Platform

(IDP), one of Giza Systems Software products.

02/2018 – 08/2018

11/2020 – 01/2023

Data Scientist, [SilkBytes](#), [DigiSay](#), Cairo, Egypt

Responsibilities:

- Building Different Models for Automation of classification processes in Anti-Piracy System ([RightsHero](#)).
- Re-architecture of the anti-piracy system and deployment on cloud.

06/2020 – 12/2020

Research Assistant, Machine Learning Lab, University of Tartu, Estonia

Responsibilities:

- Reducing overconfidence of deep neural networks predictions using novel label smoothing methods, Supervisor: [Meelis Kull](#)

09/2019 – 06/2020

Research Assistant, iCV Lab, University of Tartu, Estonia

Responsibilities:

- Benchmarking of Session based recommendation baseline and state-of-the-art Deep Learning Sequential Approaches, Supervisor: [Gholamreza Anbarjafari](#)

02/2019 – 01/2020

Teaching Assistant, Institute of Computer Science, University of Tartu, Estonia

- *Machine Learning Course* ([Fall 2019](#))
- *Big Data Management Systems Course* ([Spring 2019](#))

09/2018 - 06/2019

Research Assistant, Data Systems Group, University of Tartu, Tartu, Estonia

Responsibilities:

- Working in development of new Machine Learning Automation tool in R language.
- Benchmarking and surveying of different AutoML tools. Supervisor: [Sherif Sakr](#)

01/2017

Software Developer Intern, Ejada Systems, Cairo, Egypt

Responsibilities:

- Developing Java program for food ordering software and interfacing with Oracle relational database.

07/2016 – 09/2016

Machine Learning Intern, University of Science and Technology at Zewail City, Egypt

Responsibilities:

- Benchmarking of different condensation techniques to scale for using support vector machines with large datasets.

**COMPETITIONS
&
VOLUNTEERING
EXPERIENCE**

Contestant, ACM Egypt and Arab Collegiate Programming Contest finals (ECPC - ACPC)

Achievement: Qualified to Regional Contest ACPC

2017

Contestant, NASA Space Apps Cairo Hackathon Competition

2015

Achievement: 3rd place in NASA Space Apps Hackathon Ranking 2015

Project Manager, Zewail City Science Festival
Zewail City of Science and Technology 2014 - 2015

President, Microsoft Tech Club
Zewail City of Science and Technology 2013 - 2014

Member of Academic Committee, Students' Union
Zewail City of Science and Technology 2009-2010

Contestant, Egyptian Olympiad in informatics (EOI)
Achievement: Bronze and Silver medals – Language Used: C++

SELECTED PUBLICATIONS

"AutoMLBench: A Comprehensive Experimental Evaluation of Automated Machine Learning Frameworks", ([mdpi](#)). [[Repo](#)] 2022

"Comprehensive empirical evaluation of deep learning approaches for session-based recommendation in e-commerce", ([mdpi](#)). [[Repo](#)] 2022

"Instance-based Label Smoothing For Better Calibrated Classification Networks", the 20th International Conference on Machine Learning & Applications ([ICMLA](#)). [[Repo](#)] 2021

"Automated Machine Learning: State-of-The-Art and Open Challenges.", ([arXiv](#)). [[Repo](#)] 2020

"SmartML: A Meta Learning-Based Framework for Automated Selection and Hyperparameter Tuning for Machine Learning Algorithms", the 22nd International Conference on Extending Database Technology ([EDBT](#)). [[Repo](#)] [[Seminar](#)] 2019

SELECTED PROJECTS

"[SmartML: Machine Learning Automation Tool in R](#)" This tool helps in automation of the process of classifier algorithm selection, and hyper-parameter tuning in supervised machine learning.

"[Microscopic Image Denoising Using Deep Learning](#)", Using Different Deep Learning Architectures including GANs to help in microscopic image denoising. [[Blog](#)]

"[Predict What the mouse sees?](#)", Using the neuron response of a mice exposed to different images categories, we try to analyze and train different machine learning models to interpret what and how the mouse sees. [[Blog](#)]

"[Modern Standard Arabic Speech Recognition System](#)", Using Kaldi Toolkit to test different deep learning architectures for building a model for Arabic Speech to Text recognition. [[Blog](#)]

SKILLS

Technical Skills:

- *Programming Languages:* Python (Excellent), R (Very

- Good), MATLAB, MySQL (Good), Java, C++ (Basic).
- *SW Engineering*: Django Framework, Docker, GraphQL
- *Linux Administration*
- *Deep Learning Frameworks*: PyTorch, Keras Over Tensorflow
- *Machine Learning*: Scikit-Learn, SparkML, Weka, MLFlow, H2O, AutoML
- *Cloud Service providers*: AWS (Very Good), GCP, Azure
- *BI*: Tableau
- *Big Data Tools*: Apache Spark, Apache NiFi, Apache Kafka, Apache AirFlow, Apache Flink, NoSQL (Neo4J, HBase, Elastic Search, Cassandra, ArangoDB), Cloudera CDP
- *Version Control*: Github, GitLab, BitBucket, Azure Repos
- *Issue Tracking*: Jira, Trello, Azure DevOps

Language Skills:

- *English*: Proficient.
- *Arabic*: Native Language.

AWARDS

2020

1st Place in University of Tartu Student Project Contest:

A grant of 1000 € is awarded as the best student project in the master's degree level for developing the first R package in supervised AutoML.

2018-2020

Estonian Foreign Ministry Scholarship:

Award is given to the top applicants to degree seeking students at University of Tartu to cover the university fees in addition to a stipend. This award was given in the period from 2018 to 2020 for a total of 20 months.

2019-2020

University of Tartu Achievement Stipend:

Award is given to the top achieving full-time students in Computer Science.

2013-2018

CIB Bank Bachelor's degree Full Scholarship:

Award is covering Tuition Fees of bachelor's degree of Communications and Information Engineering at Zewail City of Science and Technology.

TESTS & SCORES **IELTS Academic Test**

Listening: 7.5 – Reading: 8.0 – Writing: 7.0 – Speaking: 6.5
Overall Band Score: 7.5

Code Forces Algorithmic Problem Solving

[Expert \(Contest Rating: 1667\)](#)

REFERENCES

References are available upon request.