

SAMIR MOUSTAFA

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EXPERIENCE

- **Research Assistant, University of Vienna** Optimizing the inference and training time for Graph Neural Networks. Oct. 2021 - Present
- **R&D Engineer, Huawei Lab** Automated neural network optimization using mixed precision quantization. Aug. 2020 - Aug. 2021
- **Researcher, Skoltech** Designed a framework at **ADASE group** to find the optimal policy network using NAS. Oct. 2019 - Jun. 2021
- **Researcher Intern, Huawei-Skoltech Lab** Solve the GANs model collapse problem with realization techniques. Jun. 2020 - Aug. 2020
- **Data Scientist, Andalusia Group** Merge the different records for the same person into a single document. Jan. 2019 - Aug. 2019
- **Machine Learning Instructor, Upwork** Taught and developed a curriculum of machine learning. Oct. 2018 - Jan. 2019

EDUCATION

- **Ph.D. University of Vienna** Oct. 2021 - Sep. 2025
Optimization of neural networks using and advancing contemporary techniques and their application on selected datasets.
- **M.Sc. Skolkovo Institute of Science and Technology** Aug 2019 - Jun. 2021
Implement papers by the end of each course as a final project or solve cutting-edge problems by introducing new methodologies. The Thesis title was Differential Automated Quantization Search, and graduated with CGPA: 4.72/5.
- **B.Sc. University of Alexandria** Sep. 2015 - Feb. 2019
Build the backbone of Computer Science, and catch up with the statistics and mathematics basics, with CGPA: 3.44/4 (top > 6%).

PUBLICATIONS

1. N. Mazyavkina*, S. Moustafa*, I. Trofimov, and E. Burnaev. **optimizing the neural architecture of reinforcement learning agents.** *Computing Conference 2021*, abs/2011.14632, 2021
2. R. Rivera-Castro, S. Moustafa, P. Pilyugina, and E. Burnaev. **topologically-based variational autoencoder for time series classification.** *LatinX in AI Research at ICML*, 2020
3. T. Akhtyamov*, P. Kopanev*, S. Moustafa*, and I. Abdrakhmanov. **exploring autoencoders and contrastive learning in application to deep reinforcement learning**, 2020
4. Sara ElElimy and Samir Moustafa. **big data in telecom industry: effective predictive techniques on cdrs.** volume 4. EAI, 6 2020

HIGHLIGHTED PROJECTS

- **Elastic Weight Consolidation for Discriminators** Research
Solve the mode collapse problem in GANs by using EWC to avoid the catastrophic forgetting of the discriminator.
- **Single Path One-Shot NAS on CIFAR-10** Research
Estimating the best architecture from some blocks for CIFAR10 based on evolutionary algorithms.
- **Neural Architecture Search Transfer Learning** Research
Achieving that transfer learning for NAS can work well and use a toy dataset(Moon Dataset) to prove the concept.
- **Neural Machine Translation with Attention** Live Demo
Deploying a complete Google's Neural Machine Translation model to translate from Arabic to English¹.
- **Unified Master Patient Index** Live Project
Making Record Linkage for patients records to capture similar patients using KNN in high space.

TRAINING AND AWARDS

IBM: Overview of business process management, emphasizing the concepts of reuse, ease of maintenance, and high-quality development strategies using IBM's business process manager and earn student **BPD Badge**.

ICPC: Winning the **twentieth place at the ECPC 2018 Qualifications Round** at ACM competition.

ACTIVITIES

26 March 2019 AASTMT Data Science Opportunities Speaker
Feb to Nov 2018 HackerRank Club, AUFS Teaching Data Structures
Dec to May 2016 CodeClub AUFS Java/Android Instructor

LINKS

Github | Google Scholar | LinkedIn |
Researchgate | Stackoverflow | Acclaim

REFERENCES

Professor, Prof. Wilfried Gansterer wilfried.gansterer@univie.ac.at
Senior R&D Engineer, Dr. I. Koryakovskiy koryakovskiy.ivan1@huawei.com
Senior Research Scientist, Dr. I. Trofimov ilya.trofimov@skoltech.ru

CERTIFICATION

Algorithms Specialization | DL Nanodegree |
DL IBM Badge | Computational Neuroscience |
Mathematics for ML

*Equal Contribution

¹Arabic to English dataset was scraped and published to Kaggle.