Marawan Gamal

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EDUCATION

Mila / University of Montreal

PhD. Computer Science *Present*

University of Waterloo

MASc. Vision, Image and Signal Processing. GPA: 4.0 (94%) *2022*

University of Toronto

BASc. Mechatronics and Robotics Engineering. Minor in Artificial Intelligence. GPA: 3.72 (3rd&4th year) *2020*

PUBLICATIONS

- **M. Gamal Abdel Hameed**, M. S. Tahaei, A. Mosleh, and V. Partovi Nia. Convolutional Neural Network Compression through Generalized Kronecker Product Decomposition. In AAAI, 2022

- **M. Gamal Abdel Hameed**, M. S. Tahaei, A. Mosleh, and V. Partovi Nia. SeKron: A Decomposition Method Supporting Many Factorization Structures. arXiv preprint arXiv:2210.06299 (2022).

EXPERIENCE

Machine Learning Researcher

Huawei Noah's Ark Lab *May. 2021 – Present*

- Formulated a novel tensor decomposition method by extending Kronecker product decomposition to the multidimensional setting. The proposed method outperformed exisiting tensor decompositions when applied to benchmark vision models and datasets.
- Implemented tensor decomposition framework including methodologies such as Tensor-Train and Tucker decomposition to automate compression of common vision models

Computer Vision Researcher

Vision and Image Processing Lab *Sep. 2020 – Aug. 2022*

- Developed an action recognition model with improved temporal modelling capablity, based on the I3D architecture
- Developed a data collection tool for action recognition and faciliated its deployment with our industry partner

Data Engineering Co-op

Mother Parkers Tea & Coffee *May 2017 – July 2018*

- Developed a predictive model that combined various production attributes of a coffee manufacturing process to estimate expected coffee waste. During its first year of deployment, 88% of problmetic production runs were avoided.

GRADUATE COURSES & PROGRAMMING SKILLS

- **Graduate Courses:** Measure Theory (Aud), Deep Learning, Pattern Recognition, Statistical Image Processing, Numerical Linear Algebra
- **Programming:** Python, PyTorch, C/C++, SQL

AWARDS & ACHIEVEMENTS

- **Waterloo Artificial Intelligence Institute Graduate Scholarship** Awarded to one MASc student for demonstrated expertise in artificial intelligence.
- **University of Toronto Dean's Honour List.** For exceptional academic achievement.
- **Student Innovation Fellowship, University of Toronto Faculty of Medicine** For technical contribution in protoyping hand hygiene technology (medicine.utoronto.ca/news/washing-away-health-care-acquired-infections)