Mohamed Ashraf Abdelsalam

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Education

Mila/University of Montreal, Quebec, Canada *2019 - 2021*
Degree: MSc in Machine Learning
Advisor: Sarath Chandar

Zewail University of Science and Technology, Giza, Egypt *2013 - 2018*
Degree: B.Sc. in Aerospace Engineering

Work Experience

Machine Learning Intern, National Bank of Canada, Montreal, Canada *May 2019 - Sep 2019*
- Worked on security and anomaly detection using ML techniques.

Teaching Assistant at Zewail University of Science and Technology, Giza, Egypt *Sep 2018 - Dec 2018*
- Courses: CIE 417 Machine Learning.

Undergraduate Research Intern, Computer Vision Lab, ETH Zurich, Switzerland *June 2016 - Sep 2016*
- Worked on Learning based Super-Resolution using Sparse Representation.
- Investigated methods for exploiting internal information from the image itself rather than training on an external pool of training images, In addition to comparing both methodologies.

Publications

IIRC: Incremental Implicitly-Refined Classification
***Mohamed Abdelsalam**, Mojtaba Faramarzi, Shagun Sodhani, Sarath Chandar*
CVPR, 2021
A setup and benchmark to evaluate lifelong learning models in more dynamic and real-life aligned scenarios.

A Brief Study on the Effects of Training Generative Dialogue Models with a Semantic loss
Prasanna Parthasarathi , **Mohamed Abdelsalam***, Joelle Pineau, Sarath Chandar*
Under Review
A study on the use of an auxiliary semantic loss as a way of encouraging generative dialogue models diversify their responses.

Other Projects

TT-Transformer, Matrix and Tensor Factorization for ML IFT6760A *Winter 2019*
- Compressed the Transformer using Tensor Train Decomposition.
- Achieved a compression rate of 2.58 with a minimal loss in accuracy on the task of Machine Translation.

Attribute-based Face Generation Using Progressive GANs, Bachelor Project *Spring 2018*
- Used conditional GANs to create realistic faces given a set of face attributes.
- The network was built upon Progressively Growing GANs.
- Framework used was Tensorflow, a GPU Google Cloud instance was used for training, and the dataset used was CelebA.

RollX, Dynamics SPC 218 (Simulation video here,Trial video here) *Spring 2015*
- Designed and manufactured a Cubli inspired jumping machine based on the conservation of angular momentum.

Skills and Qualifications

Technologies:
Languages: Python (Expert); C/C++, MATLAB, SQL (Familiar); C#, Java (Beginner)
Frameworks: Pytorch (Expert); Tensorflow, Keras (Familiar)
Tools: Numpy, Pandas, scikit-learn, NLTK, Git, Slurm

Languages: Arabic (Native), English (Fluent), French (Fair)

Relevant Courses

University Courses: **R**epresentation Learning (Deep Learning), **M**atrix and Tensor Factorization for ML, **D**ata Structures and Algorithm, **P**robabilistic Graphical Models, **P**robability & Statistics, **L**inear Algebra, **C**alculus I&II, **C**omputer Architecture, **D**atabase, **A**rtificial Intelligence

Online Courses: **C**onvolutional Neural Networks for Visual Recognition (Stanford), **M**achine Learning Postgraduate Course (British Columbia), **L**earning from Data (Caltech), **I**ntroduction to CS and Programming using Python (MIT)

Extracurricular Activities & Hobbies

Social Intern, AIESEC GLobal Community Development, Malaysia *Aug 2014 – Sep 2014*

Participant in STP HR workshop, Cairo University, Egypt *Spring 2013*

Hobbies: Tennis, Chess, Swimming