pratogab@mila.quebec

Gabriele Prato

pratogab.github.io

SUMMARY

I am a **PhD candidate** at **Mila**, Université de Montréal. My current research focuses on how to go from state-of-the-art large language models to **AGI**. In the past I've worked on **NLP**, **Vision**, **Scaling Laws** and Quantization, all in the context of **deep learning**.

WORK EXPERIENCE

Huawei *Jan. 2019 – Dec. 2019*
Associate Researcher *Montreal, Canada*
- Compressed state-of-the-art **neural machine translation** models while maintaining translation quality.

Zerospam *May 2017 – Aug. 2017 / May 2018 – Aug. 2018*
Research Scientist Intern *Montreal, Canada*
- Developed **recurrent neural networks** for email spam filtering.
- **Improved detection accuracy** upon previously used methods.

RESEARCH

PatchBlender: A Motion Prior for Video Transformers *Oct. 2022*
NeurIPS Workshop: Vision Transformers: Theory and Applications
- Introduced PatchBlender, a learnable blending function that operates over patch embeddings across the temporal dimension of the latent space of **Vision Transformers**.

Scaling Laws for the Few-Shot Adaptation of Pre-trained Image Classifiers *Oct. 2021*
ICML Workshop: Uncertainty & Robustness in Deep Learning
- Showed that the **few-shot generalization** performance of image classifiers is well approximated by **power laws** as the pre-training set size increases.

Fully Quantized Transformer for Improved Translation *Sept. 2019*
NeurIPS Workshop: EMC2 - Energy Efficient Training and Inference of Transformer Based Models
- Fully **quantized** the **Transformer** to 8-bit while maintaining the translation quality compared to the full precision model.

Towards Lossless Encoding of Sentences *June 2019*
ACL (Association for Computational Linguistics)
- Proposed a near lossless method for encoding long sequences of texts into feature rich representations.

EDUCATION

Universite de Montreal *Sept. 2019 – Present*
PhD, Computer Science *Montreal, Canada*
- GPA: 4.15/4.3, Supervisor: Alain Tapp, Sarath Chandar

Universite de Montreal *Jan. 2017 – Aug. 2019*
Master's Degree, Computer Science *Montreal, Canada*
- GPA: 3.825/4.3, Supervisor: Alain Tapp

Universite de Montreal *Sept. 2014 – Dec. 2016*

Bachelor's Degree, Computer Science *Montreal, Canada*

- **Excellence Scholarship**
- GPA: 3.311/4.3

SKILLS

- Computer: **PyTorch**, **Python**, **Numpy**, C++, C, C#, Java, Javascript, SQL, PHP
- Languages: Fluent in **English** and **French**. Basic Italian.

INTERESTS

Calisthenics, rock climbing, dancing, tabletop RPGs and board games.