

# Gabriele Prato

[pratogab.github.io](https://pratogab.github.io)

## SUMMARY

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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

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### Huawei

*Associate Researcher**Jan. 2019 – Dec. 2019**Montreal, Canada*

- Compressed state-of-the-art **neural machine translation** models while maintaining translation quality.

### Zerospam

*Research Scientist Intern**May 2017 – Aug. 2017 / May 2018 – Aug. 2018**Montreal, Canada*

- Developed **recurrent neural networks** for email spam filtering.
- **Improved detection accuracy** upon previously used methods.

## RESEARCH

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### 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

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### Universite de Montreal

*PhD, Computer Science**Sept. 2019 – Present**Montreal, Canada*

- GPA: 4.15/4.3, Supervisor: Alain Tapp, Sarath Chandar

### Universite de Montreal

*Master's Degree, Computer Science**Jan. 2017 – Aug. 2019**Montreal, Canada*

- GPA: 3.825/4.3, Supervisor: Alain Tapp

**Universite de Montreal**

*Bachelor's Degree, Computer Science*

*Sept. 2014 – Dec. 2016*

*Montreal, Canada*

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

## **SKILLS**

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

## **INTERESTS**

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