

Quentin FRUYTIER

Ph.D. Candidate

University of Texas at Austin

M.Sc. & B.Sc. Graduate
McGill University

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Ph.D. Supervisors

[Aryan Mokhtari](#)

[Sujay Sanghavi](#)

M.Sc. Supervisors

[Abbas Khalili](#)

[Tim Hoheisel](#)

Patents

Latent Distribution Shaping:

19/337202

September 2025

Programming Skills

Python (PyTorch & TensorFlow)

C, C++, Java, Bash Script

Languages

Bilingual French (native) and English

Domain Knowledge

Transformers, Auto-encoders,
CNN, VIT, Mixtures of Experts.

EM Algorithm, SGD, Mirror

Descent, KL-divergence,

Maximum Mean Discrepancy,

Disentanglement,

Interoperability.

Education

UT Austin • Ph.D. in Electrical Engineering • 4.0/4.0 GPA

Expected 2027

McGill University • Masters in Mathematics • 4.0/4.0 GPA

August 2023

McGill University • Joint Honours Math & Comp. Sci. • 3.8/4.0 GPA

June 2021

Research Experience

Sculpting Latent Spaces With MMD (ICLR/ICML 2026).

Summer 2025

Developed a foundational framework for training Deep Learning models to learn latent representations that feature any desired distribution, regardless of the architecture. Provable successful applications for Disentanglement, Interoperability, Model Identifiability, Quantization, etc.

Learning Mixtures of Experts with EM (ICML 2025).

2023-2024

Theoretically and Experimentally demonstrated that the EM algorithm offers fast convergence to parameters offering a better optimal solution in Mixture of Experts models.

Vision Transformers for Fast MRI.

2023-2024

Utilized VITs to predict missing k-space lines for fast MRI ([fastMRI Dataset](#)).

M.Sc. Thesis on EM Algorithm.

Fall 2021-Summer 2023

Reviewed of the EM's convergence properties and applications to mixture models.

Deep Learning for Traffic Prediction.

Winter 2021

Captured the spatial and temporal dependencies of traffic data with Graphs.

Work Experience

AI/ML Researcher for Wireless Communications

Summer 2025

InterDigital Inc. AI Lab

Los Altos, CA

Developed a foundational framework to engineer the latent spaces of Deep Learning models. Work ultimately led to a patent and several publications.

Data Science Intern at Nectar

Summer 2021

Nectar Technologies Data Science

Montreal, QC

Prototyped Deep Learning models on sensor data to predict hive health.

Software Engineer Intern at Matrox/Akamai

Summers 2019/2020

Montreal QC/Ottawa ON

Teaching Experience

Teaching Assistant

2019-2022

Principles of Statistics 1, Calculus 2, Foundations of Programming (Python/ Java)

McGill University Department of Mathematics and Statistics

Montreal, QC

Awards

Basdall Gardner Memorial Graduate Fellowship in Engineering

Feb 2023 -

UT Austin fellowship for academic excellence

Graduate Excellence Fellowship Award

May 2022

McGill University award for academic excellence

Tomlinson Engagement Award for Mentoring

April 2019