

JOSEPH D VIVIANO

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Mila Quebec AI Institute
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EXPERIENCE

Applied Research Scientist 2020–Now
[Mila Technology Transfer, Mila Quebec AI Institute](#)

- Research on medical applications, ethics of language models, cognitively-inspired AI, and out of distribution generalization.
- Equity momentum trading strategies with [CDPQ](#) (\$365 B under management).

Fellow 2021
[PhD to VC, Fifty Years](#)

- Experience sourcing strong deep-tech companies ready for seed or pre-seed investment, performed due diligence, & portfolio support.

Research Intern 2020
[Google, Smart Ad Relevance System Predicted Click Through Rate Team](#)

- Uncertainty estimation research for predicted click through rates.

Research Intern 2019–2020
[Mila Quebec AI Institute](#)

- Performed explainable AI research whether saliency can be relied on to [diagnose generalization failures](#).

Research Intern 2019
[Imagia Cybernetics](#)

- Developed deep learning method for cancer localization without segmentations, and multimodal classification combining images with clinical notes.

Research Methods Specialist 2014–17
[Kimmel TIGRlab, Centre for Addiction and Mental Health](#)

- Developed two published machine learning tools that identify vulnerable [schizophrenia](#) and [Alzheimer's](#) patients.
- Managed the design & implementation (team of 5) of a [data management platform](#) and [quality assurance tools](#) used by team of 20.

Data Analyst 2013–14
[CANN Lab, York University](#)

- Developed biomarker of [reduced executive function in aging](#).

Graduate Student 2011–13
[Schneider Lab, York University](#)

- MRI research of the [human visual input](#) and [feedback](#) systems.

RESEARCH

Publications: I'm an [active researcher](#) with a h-index of 13.

Precision Medicine: Biomarker development for patient-tailored treatments.

Deep Learning: Representation learning for robust and explainable models, multimodal learning, attention mechanisms.

Teaching: Computational methods and machine learning courses taught at CAMH, McGill BrainHack, and MAIN Conference Workshop.

Reviewing: Paper reviews for [ICLR](#), [Biological Psychiatry](#), [MIDL](#), & [PLOS ONE](#)

EDUCATION

MSc. Computer Science, Machine Learning Specialization 2018–20

Mila, Université de Montréal, Montréal, QC
Reinforcement Learning, Deep Learning, NLP, Machine Learning, & CS Fundamentals.

MSc. Biology, Neuroscience Specialization, With Distinction 2011–13

York University, Toronto, ON
Magnetic Resonance Imaging, Systems Neuroscience, & Statistics.

BSc. Psychology, Hons. 2005–09

Queen's University, Toronto, ON
Psychology, Neuroscience, Statistics, and Philosophy.

TECHNOLOGIES

Python Proficient
Numpy, scipy, pandas, scikit-learn, pytorch, tensorflow.

MATLAB Intermediate
R Intermediate

Unix Administration Intermediate
Webservers, virtualisation, & containerisation. Certified system administrator by Linux Foundation (2016).

C Familiar
Java Familiar
SQL Familiar