

# 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** 2021–2011  
[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