# JOSEPH D VIVIANO

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Mila Quebec AI Institute
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## EXPERIENCE

**Fellow**                                                2021–Now
PhD to VC, Fifty Years ⎋

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

**Applied Research Scientist**                            2020–Now
Mila Technology Transfer, Mila Quebec AI Institute ⎋

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

**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
Kimel 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 an h-index of 12.
**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
Coursework in Reinforcement Learning, Deep Learning, NLP, Machine Learning, & CS Fundamentals.

**MSc. Biology, Neuroscience Specialization, With Distinction**          2011–13
York University, Toronto, ON
Coursework in Magnetic Resonance Imaging, Systems Neuroscience, & Statistics.

**BSc. Psychology, Hons.**          2005–09
Queen's University, Toronto, ON
Coursework in 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