

JOSEPH D VIVIANO

www.viviano.ca [↗](#)
joseph@viviano.ca
[Mila Quebec AI Institute](#) [↗](#)
6666 St Urbain St, Montréal, QC

EDUCATION

2018–2020 **MSc., Computer Science.** Université de Montréal, QC/CA.

- Internship Supervised by [Dr. Yoshua Bengio](#) [↗](#)
'Methods for controlling and utilizing saliency maps in medical imaging'.

2011–2013 **MSc. with Distinction, Biology.** York University, ON/CA.

- Thesis Supervised by [Dr. Keith Schneider](#) [↗](#)
'Tremotopic mapping of the human thalamic reticular nucleus'.

2005–2009 **BSc. Hons., Psychology.** Queen's University, ON/CA.

PROFESSIONAL EXPERIENCE

2020–Now **Applied Research Scientist** Mila Québec AI Institute, QC/CA.

- Consult on, propose, and implement deep learning solutions for Mila's partners: Optimal portfolio allocation (finance) & digital forgery-detection (fraud).
- Collaboration with Mila researchers on medical applications research and cognitively-inspired AI.

2020 **PhD to VC Fellow** Fifty Years, CA/US.

- [Evening and weekends program](#) [↗](#) teaching the basics of venture capital specifically for deep technology companies: the terminology, the economics, how to source, how to diligence, and how to support.

2020 **Research Intern** Google, PA/US.

- Built a research pipeline to test ideas on an internal click through rate dataset. This pipeline will be used as a testbed for future research collaborations.
- Uncertainty (epistemic) estimation methods for the [search ads predicted click through rate team](#) [↗](#).

2019 **Research Intern** Imagia, QC/CA.

- Developed methods for combining clinical notes with medical images to improve classification performance.
- Developed methods for localizing disease without explicit labels of where the disease is located in an image.

2014–2018 **Research Methods Specialist** Centre for Addiction and Mental Health, ON/CA.

- Managed the design & implementation (team of 5) of a sophisticated data management platform used daily by researchers (team of 20).
- Led R&D on novel analytic approaches and quality assurance pipelines.
- Managed a 22-node compute cluster.
- Designed & contributed key analysis, writing, & tools for 2 successfully funded grants & 15 published papers.

2013-2014 **Research Assistant**

York University, ON/CA.

- Development of a custom data pipeline platform.
- Mentored graduate students in neuroimaging analysis approaches, and contributed to 2 publications.

SKILLS

| | |
|---------------------|--|
| Python | Tensorflow, pytorch, numpy, pandas, scipy, scikit-learn. |
| Unix Administration | Webservers, virtualisation, & containerisation. Certified system administrator by Linux Foundation (2016). |
| Other Languages | R, MATLAB, Java, C, SQL. |

COMMUNITY ENGAGEMENT

| | |
|-------------|--|
| Reviewing | Paper reviews for ICLR , Biological Psychiatry , MIDL , & PLOS ONE . |
| Instruction | Technical training on entry-level deep learning at MAIN 2019 and Brainhack 2019 . Scientific computing course on Python for data analysis also developed for the Center for Addiction and Mental Health. |

SELECTED PUBLICATIONS

* = equal contributions. For a complete list of my work, [please see my Google Scholar](#) .

Luccioni A, **Viviano JD**. What's in the Box? A Preliminary Analysis of Undesirable Content in the Common Crawl Corpus. The Joint Conference of the Association for Computational Linguistics and the International Joint Conference on Natural Language Processing (ACL-IJCNLP), 2021.

Viviano JD, Simpson B, Dutil F, Bengio Y, Cohen JP. Saliency is a Possible Red Herring When Diagnosing Poor Generalization. International Conference on Learning Representations (ICLR), 2021.

Viviano JD, Buchanan RW, Calarco N, Gold J, Foussias G, Bhagwat N, Stefanik L, Hawco C, Malhotra AL, Voineskos AN, for the SPINS group. 2018. Resting-state connectivity biomarkers of cognitive performance and social function in schizophrenia spectrum disorders and healthy controls. *Biological Psychiatry*. 84(9), 665-674.

Bhagwat N, **Viviano JD**, Voineskos AN, Chakravarty MM. 2018. Modeling and prediction of clinical symptom trajectories in Alzheimer's disease using longitudinal data. 2018. *PLoS Computational Biology*. 14(9), e1006376.

DeSimone K, **Viviano JD**, Schneider KA. 2015. Population receptive field estimation reveals new retinotopic maps in human subcortex. *Journal of Neuroscience*, 35(27):9836-47.

Viviano JD, Schneider KA. 2015. Interhemispheric interactions of the human thalamic reticular nucleus. *Journal of Neuroscience*, 35(5):2026-32.