JOSEPH D VIVIANO

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EXPERIENCE

I love user-focused technology. I've worked with psychiatrists to develop MRI-based biomarkers for medication response, radiologists to develop cancer-finding algorithms, and Google to help them know when their advertising pricing algorithms aren't sure. I've consistently taken the lead on hard projects, learned whatever necessary, and delivered results.

Research Intern 2020–Now
Google, Search Ads Predicted Click Through Rate Team

- Developed research pipeline for online search ad click prediction research, designed for future interns and research collaborators.
- Uncertainty estimation using variational approximation techniques and ensembles with a diversity-enforcing discriminator.

Research Intern 2019–2020
Mila Medical, Mila Quebec AI Institute

- Developed method for ensuring medical classifiers make the right predictions for the right reasons.
- Curation of a dataset designed to study the effect of site-driven bias.

Research Intern 2019
Imagia Cybernetics

- Method for producing cancer localizations using only images and disease labels, and improved classification by combining clinical notes and images.

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.
- Key analysis, writing, & tools for 2 successfully funded grants & 13 published papers.

Data Analyst 2013–14
CANN Lab, York University

- Architect of a platform for MRI pipeline development.
- Analytic support for biomarker of reduced executive function in aging and an associated cognitive task.

Graduate Student 2011–13
Schneider Lab, York University

- High resolution MRI of the human visual input and feedback systems.

RESEARCH

Publications: I led 4 first-author projects & contributed to an additional 17.
Precision Medicine: Biomarker development for patient-tailored treatments.
Deep Learning: Unsupervised and semi-supervised learning, multimodal learning, interpretability.

EDUCATION

MSc. Computer Science, Machine Learning Specialization 2018–Now
Mila, Université de Montréal, Montréal, QC

MSc. Biology, Neuroscience Specialization, With Distinction 2011–13
York University, Toronto, ON

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

TECHNOLOGIES

Python Proficient
Numpy, scipy, pandas, scikit-learn, pytorch, tensorflow.
MATLAB Intermediate
R Intermediate
Unix Administration Intermediate
Webservers, virtualisation, & containerisation.
C Familiar
Java Familiar
SQL Familiar

TEACHING

Introduction to Deep Learning 2019
McGill BrainHack Summer School & MAIN Conference Workshop

Python for Neuroimaging 2015
Centre for Addiction and Mental Health

EXTRACURRICULAR

Deep Learning Specialization 2018
deeplearning.ai, Coursera

Certified System Administrator 2016
Linux Foundation

High Performance Computing 2014–16
SciNet, University of Toronto

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