JOSEPH D VIVIANO

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EXPERIENCE

My mission is to transform my love of biomedical science into health care technologies that scale. I've demonstrated the consistent ability to take the lead on large projects, learn the necessary skills, and deliver results. I previously managed the development of a biomedical data management system and treatment-outcome prediction tools for psychiatric patients using MRI scans, and now I'm exploring new applications of deep learning to medical data.

Research Intern 2019
Imagia

- Developed novel method for controlling what medical classifiers pay attention to when making predictions.
- Development of method that combine clinical notes and medical images to improve classification and localization.
- Curation of a dataset designed to study the effect of site-driven bias.

Research Methods Specialist 2014–17
Kimel TIGRlab, Centre for Addiction and Mental Health

- Managed the design & implementation (team of 5) of a data management platform used daily by researchers (team of 20).
- Developed a published machine learning tools that identifies vulnerable patients.
- Managed R&D (team of 3) of quality assurance tools that repair corrupted data & detect critical hardware failures.
- Lead developer of production analysis code used by the scientists.
- Mentored scientists, post docs, graduate students, & engineers in computational methods.
- Managed a 22-node compute cluster.
- Designed & contributed key analysis, writing, & tools for 2 successfully funded grants & 13 published papers.

Data Analyst 2013–14
CANN Lab, York University

- Architect of a custom platform for data pipeline development.
- Designed & contributed key analysis & tools to 2 published papers.

Graduate Student 2011–13
Schneider Lab, York University

- Led 11 labs on biology & statistics including evaluations & assessments.
- Designed & contributed key analysis, writing, & tools to 3 published papers.

RESEARCH

Publications: I've led 4 complete research projects as first author & contributed crucial analysis or direction to an additional 17.
Precision Medicine: I invent methods for extracting new medical knowledge from biological data.
Deep Learning: Unsupervised and semi-supervised learning, multimodal learning, interpretability.

TECHNOLOGIES

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

EDUCATION

MSc. Computer Science, Professional 2018–
Mila, Université de Montréal, Montréal, QC
Certified System Administrator 2016
Linux Foundation
MSc. Biology, With Distinction 2011–13
York University, Toronto, ON
BSc. Psychology, Hons. 2005–09
Queen's University, Toronto, ON

INSTRUCTION

Introduction to Deep Learning 2019
McGill BrainHack Summer School
Python for Neuroimaging 2015
Centre for Addiction and Mental Health

COURSEWORK

The Essentials of System Administration
The Linux Foundation
Intro to High Performance Computing
SciNet, University of Toronto

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