JOSEPH D VIVIANO

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EXPERIENCE

I want to take the skills I've developed working with messy clinical and neuroscientific data and apply them to make the systems we all rely on more efficient. 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. Now I'm studying deep learning at the Université de Montréal and seek to expand into other industries.

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

- Managed the design & implementation (team of 5) of a sophisticated data management platform used daily by researchers (team of 20).
- Invented an accurate machine learning test that identifies vulnerable patients, & directed 2 other similar successful projects, including 1 deep learning project.
- Managed R&D (team of 3) of quality assurance tools that repair corrupted data & detect critical hardware failures.
- Led R&D on multiple novel analytic approaches that have guided the majority of the lab's research during my tenure.
- Lead developer of production analysis code used by our scientists.
- Mentored scientists, post docs, graduate students, & engineers.
- Managed a 22-node compute cluster.
- Designed & contributed key analysis, writing, & tools for 2 successfully funded grants & 7 published papers.

Data Analyst 2013–14
CANN Lab, York University

- Architect of a custom platform for data pipeline development, now used in multiple research institutions.
- Responsible for maintaining a fleet of 5 computers.
- Mentored graduate students in neuroimaging analysis approaches.
- Designed & contributed key analysis & tools to 2 published papers.

Graduate Student 2011–13
Schneider Lab, York University

- Successfully identified a small region of the human thalamus never before observed in a living person using a new high-resolution imaging approach & unique visual stimulus.
- Portions of master's thesis published in the Journal of Neuroscience.
- Led 11 labs on biology & statistics including evaluations & assessments.
- Designed & contributed key analysis & tools to 3 published papers.

RESEARCH

Publications: I've led 3 complete research projects as first author & contributed crucial analysis or direction to an additional 15.
Precision Medicine: I invent methods for extracting new medical knowledge from biological data.
Deep Learning: I'm passionate about the relationship with neuroscience, as well as the numerous applications to medical data.

TECHNOLOGIES

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

EDUCATION

MSc. Computer Science, Professional 2018–
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

COURSES

Deep Learning Specialization
deeplearning.ai, Coursera
Neural Networks for Machine Learning
Coursera
Hadoop Platform & Application Framework
Coursera
Machine Learning
Coursera
Intro to High Performance Computing
SciNet, University of Toronto

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