David St-Amand

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**Summary**

I have recently graduated with a Master’s in Neuroscience at McGill university where I use machine learning to better understand the receptive fields of V1 neurons from electrophysiological data. I have graduated from the Honours psychology program at McGill in Spring 2017, in which I got my first paper published. My passion for understanding new ideas allowed me to get good backgrounds in both statistics and machine learning. I am very comfortable programming in both R and python.

**Degrees**

**McGill University**, Montréal, Québec

Master’s degree in Neuroscience: *Graduated*

**McGill University**, Montréal, Québec

Honors Psychology: *Graduated*

**Publications**

* St-Amand, D., Sheldon, S., & Otto, A. R. (2018). Modulating episodic memory alters risk preference during decision-making. *Journal of cognitive neuroscience*, *30*(10), 1433-1441.

**Past research experience**

*Master degree:* Integrate Program in Neuroscience, McGill University. 2017-2020. Research supervisor: Dr. Curtis Baker.

* Transient inhibition to light explains stronger V1 responses to dark stimuli

*Undergraduate Honors Research:* Department of Psychology, McGill University, 2016-2017. Research supervisor: Dr. Ross Otto.

* Effect of episodic memory on risky decision-making

*Research assistant position*: Department of Psychology, McGill University, 2015-2016. Research supervisor: Dr. David Ostry.

* Study of the structure and acquisition of sensorimotor maps

*Undergraduate Honors Research:* Department of Psychology, McGill University, 2015-2016*. R*esearch supervisor: Dr. Jennifer Bartz.

* Investigation of the effect of stress on empathy in men and women

**Employment History**

Past:

**Graduate student:** from September 2017 to September 2020

Baker lab (McGill University), Montreal, Québec

**Research Assistant (SURA)**: from May 2017 to September 2017

Motor Neuroscience Lab(McGill University), Montreal, Québec

**Tutor for psychological statistics** (PSYC 305 and PSYC 204): from September 2016 to January 2018

McGill University, Montreal, Québec

**Research Assistant**: from May 2016 to September 2016

Motor Neuroscience Lab(McGill University), Montreal, Québec

**Receptionist**: from August 2012 to August 2014

Séminaire Saint-Joseph, Trois-Rivières, Québec

**Research skills**

**Machine learning:**

I have had extensive training in machine learning during my Master’s degree, where I learned how to map receptive fields of neurons using machine learning. I am comfortable with Google’s TensorFlow package in python, which has good reputation within the machine learning community. The foundation of machine learning knowledge comes from taking graduate-level applied machine learning classes at McGill, which are skills I have improved on throughout my Master’s degree.

**Electrophysiology**

I have a solid training in electrophysiology thanks to the 3-years I have been doing research at the Baker lab. I have developed a good understanding of the experimental setup the and of what is needed for the experiment to proceed well. I am familiar with many of the problems that may occur in electrophysiology experiments and have experience in finding new solutions to such problems. I also have plenty of experience analyzing electrophysiological data.

**Programming:**

*Python: Advanced.*

Python is the programming language I use most due to its versatility and great open-source packages. My python skills have been refined through my Master’s degree, where I spent most of my time developing machine learning algorithms and new analysis methods in python. I am very comfortable in this language and am confident in my ability to find new solutions when facing novel problems.

*R*: *Advanced.*

R is the main programming language I use for data analysis, statistics and making graphs. I have been constantly using R since Summer 2016 and have become extremely fluent in this language. I have taught R workshops to graduate students in both Summer 2018 and Summer 2019.

**Statistics:**

I’ve developed a strong statistical background by taking a variety of statistical courses as electives in my undergraduate degree. These classes taught me general linear models from theoretical perspective and have given me a very solid grasp of statistics in general. I also have developed experience in linear mixed models and non-parametric statistics. This statistics background has been incredibly helpful in my research career so far.

**Spoken languages**

English: Very fluent

French: Native