Gabe Nespoli, Ph.D.

Kitchener, Ontario, Canada
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Skills: signal processing, research design, data collection, wrangling, and modelling

Tools: MATLAB, Python, R, shell, git, EEG, Psychophysiology

Work Experience

Data Scientist | SMART Lab, Ryerson University Sep 2018–Present

- Creates tools for analysis and visualization of biological time-series data, empowering colleagues to understand their data, i.e., PHZLAB (*github link*) and the Neural Entrainment Toolbox (*github link*)

Graduate Student | SMART Lab, Ryerson University Sep 2012–Aug 2018

- Pioneered novel analyses measuring localized neural entrainment, offering insight into how different parts of the brain track the beat in music
- Used signal processing algorithms (e.g., filtering, FFT, independent components analysis (ICA), dipole fitting) to extract meaningful values from multi-channel biological data
- Hosted biannual workshops on data analysis, signal processing and programming in MATLAB for 5–10 attendees, engaging others to discover the power of programming

Research Operations Coordinator | Dept of Psychology, Ryerson University Feb 2010–Aug 2012

- Managed the purchasing, training, and maintenance of research tools, including EEG, VR, and eye tracking, ensuring smooth operation of the department
- Quickly learned new technologies to provide training and support to researchers in the department

Lab Manager | SMART Lab, Ryerson University Jul 2007–Feb 2010

- Part of a team who developed the Emoti-Chair—a sensory-substitution technology that presents music as vibration—enabling more access to auditory music for deaf people, among other applications
- Responsible for the smooth operation of the lab's recording studio, ensuring proper audio/video recording of stimuli and experiments

Education

Ph.D. | Ryerson University 2018
Dissertation: The neuroscience of groove: Neural mechanisms marrying music and movement
Machine Learning Certificate | Stanford University via coursera.org 2017
M.A. | Ryerson University 2014
Thesis: Musicianship and neural synchronization at multiple timescales
B.Sc. | McGill University 2007
Thesis: Beauty in the body of the beholder: The physiological correlates of musical emotion

Interests

- Music: jazz organ, folk and bluegrass guitar
- Sports: hockey (goalie), golf, and cycling
- Food: gardening, cooking, and eating