

Jacob Sanz-Robinson

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Education

PhD: Neuroscience

Started Sep. 2020

McGill University, Montreal, Canada.

- Thesis topics: *Neuroimaging, Neuroinformatics, Big Data, Data Reproducibility, Machine Learning.*
- Supervisors: *Jean-Baptiste Poline, Tristan Glatard.*

Bachelor of Science: Honours Computer Science, First Class Honours distinction.

Sep. 2016 - May 2020

Minor in Musical Science and Technology

McGill University, Montreal, Canada.

International Baccalaureate (42/45 points).

Aug. 2014 - May 2016

Colegio Anglo Colombiano, Bogota, Colombia.

Work Experience

Teaching Assistant: Fundamentals for Neuro Data Science, McGill (Montreal, Canada)

July 2021

- QLS 612 course: Coordinated logistics, prepared lecture material and exam questions on Python and Data Visualization modules, lectured, and held office hours for the 40 students enrolled in the course.

Research Trainee at The Neuro, McGill (Montreal, Canada)

June - Sep. 2020

- **ORIGAMI Lab** and **Big Data Lab**: Continuous Integration for facilitating computational reproducibility.

Speech Science intern at Nuance (Microsoft) (Montreal, Canada)

May - Sep. 2019

- Voice Biometrics Team: Modularized and streamlined an ensemble of machine learning tools used to identify a person from their speech recordings (Python).
 - Transcription Engine Team: Automatic redaction tool used to detect and remove confidential and sensitive information from transcriptions, logs, and audio files of customer phone calls (Python).
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Research Experience

Undergraduate researcher in Prof. Ichiro Fujinaga's DDMAL lab at McGill University

Sep. - Dec. 2019

- Developed a system for dynamically loading and converting Cantus Database data into MIDI (JavaScript).
- Synthesized Gregorian Monk Chants, played resulting audio on a website (Django, Backbone Marionette).

Undergraduate researcher in Prof. Joseph Vybihal's lab at McGill University

May - Sep. 2018

- Developed Automatic Lip Sync pipeline using NN classification to generate unique B-Spline mouth shapes based on speech type (CMU Sphinx, Librosa, Keras, Tensorflow, Python).
 - Constructed a dataset from scratch using voice recordings from 50 individuals.
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Recent Relevant Projects

- [Continuous Integration for testing neuroimaging result reproducibility across pipelines and datasets.](#) Ongoing
 - [Bayesian genetic algorithm](#): Solving mazes (Bayesian Statistics to optimize evolutive process). May 2020
 - [Sentiment analysis CNN](#) for song lyrics using GloVe word embeddings (Python). Nov. 2019
 - Computer Vision processing and CNN modelling to find the largest digit in an image (Python). Mar. 2019
 - [Digital audio sampler and modular effects processor](#) (Arduino, C++, MAX/MSP). Dec. 2018
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Skills

- Programming: Python, Java, C, C++, Bash, OCaml, Assembly (MIPS), MATLAB, JavaScript, Unix.
 - Software: Git, FSL, FreeSurfer, DataLad, Docker, Singularity, Matplotlib, Sk-learn, Keras, Tensorflow.
 - Languages: Native fluency in English and Spanish.
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Selected Awards

- Canadian Open Neuroscience Platform ([CONP](#)) Research Scholarship. 2021
 - McGill J. W. McConnell Scholarship (top 5% of entering class). 2016
 - AACBI IB schools award (Best IB score of the Andean countries, 42/45 points). 2016
 - Colegio Anglo Colombiano Best Graduate (7.00/7.00 GPA), Prefect, Vice Headboy. 2016
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Interests

- Playing, writing, recording, and producing music (my music on [Spotify](#) and [Apple Music](#)).
 - Judo: Cundinamarca departamental champion, 4th place Colombian national championships (2014).
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