SACHA MORIN

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Education

Research M.Sc.
in Machine Learning - Since 2021
RAFALES, Professor Guy Wolf
DIRO, Université de Montréal
GPA: 4.30 / 4.30

Bachelor of Mathematics and Computer Science - 2021
DIRO, Université de Montréal
GPA: 4.15 / 4.30

École du Barreau du Québec - 2017
Barreau du Québec

Bachelor of Law (LLB) - 2017
Université de Sherbrooke
GPA: 3.68 / 4.30

Research Interests

My research interests include manifold learning, robotics and deep learning.

Journal Publications

[1] Patient health records and whole viral genomes from an early SARS-CoV-2 outbreak in a Quebec hospital reveal features associated with favorable outcomes. Paré, Bastien et al. *PLOS One*, December 2021.

Conference Proceedings

[2] Monocular Robot Navigation with Self-Supervised Pretrained Vision Transformers. Saavedra, Miguel*; Morin, Sacha*; Paull, Liam. *Conference on Robots and Vision*, May 2022.

[3] Extendable and invertible manifold learning with geometry regularized autoencoders. Duque, Andres F*; Morin, Sacha*; Wolf, Guy; Moon, Kevin. *IEEE Machine Learning on Big Data*, December 2020.

Workshops

[4] Extendable and invertible manifold learning with geometry regularized autoencoders. Morin, Sacha*; Duque, Andres F*; Wolf, Guy; Moon, Kevin. In *Montreal AI Symposum (MAIS),* Montreal, 2020.

[5] Extendable and invertible manifold learning with geometry regularized autoencoders. Duque, Andres F*; Morin, Sacha*; Wolf, Guy; Moon, Kevin. In *Conference on the Mathematical Theory of Deep Neural Networks (DeepMath)*, Virtual Conference, 2020.

[6] Extendable and invertible manifold learning with geometry regularized autoencoders. Duque, Andres F*; Morin, Sacha*; Wolf, Guy; Moon, Kevin. In *Differential Geometry meets Deep Learning (DiffGeo4DL)*, Virtual Conference, 2020.

Manuscripts in Preparation

Unbiased dimensionality reduction reveals multiple simultaneous dysregulations associated with poor antibody responses or fatal outcome in acute COVID-19. Brunet-Ratnasingham, Elsa; Morin, Sacha et al.

Extendable and invertible manifold learning with geometry regularized autoencoders. Duque, Andres F*; Morin, Sacha*; Wolf, Guy; Moon, Kevin. Journal version. (Under review)

*** indicates equal contributions.**

Others

Student Intersectoral Committee – 2022-2023
IVADO
Develop and strengthen social, professional and academic ties within the IVADO student community

Winner of the Matthieu-Bernard Competition – 2016
SQDI
Paper on nuclear disarmament and international public law

Pro Bono Canada – 2014-2015
Université de Sherbrooke
Draft training material for directors of non-profits

Finalist – 2014
Droit de cité, CIBL 101.5
Radio debate tournament on topics such as autonomous weapons, gender parity for ministerial cabinets and surrogacy

Debate club – 2013-2017
Université de Montréal
Université de Sherbrooke

Languages

French

English

Awards

IVADO M.Sc. Scholarship – 2021
Institut de valorisation des données

FRQNT B1X Scholarship – 2021
Fonds de recherche du Québec – Nature et technologies

NSERC M.Sc. Scholarship – 2021 (Declined)
Natural Sciences and Engineering Research Council of Canada

ISM Undergraduate Research Scholarship – 2021
Institut des sciences mathématiques

IVADO Undergraduate Research Scholarship – 2020
Institut de valorisation des données

NSERC Undergraduate Award – 2019
Natural Sciences and Engineering Research Council of Canada

Scholarship for Academic Excellence – 2019
Bourse d'excellence des diplômés et des professeurs – DIRO
Université de Montréal

Dean's List – 2015, 2016 and 2017
Faculty of Law
Université de Sherbrooke

Work Experience

Université de Montréal / Mila, Montreal
Research Intern – Since 05/2020
Professor Guy Wolf, DMS

- See Conference Proceedings and Workshops (above)

LJT Lawyers LLP, Montreal
Lawyer (part-time) – 01/2020 to 04/2020
Articling Student – 07/2019 to 01/2020
Student-at-law – 05/2018 to 08/2018

- Mergers and acquisitions of software companies

Université de Montréal, Montreal
Research Intern - 09/2018 to 04/2019
Professor Marc Feeley, DIRO

- Develop Gambit Forensics, an analytics tool to benchmark various compilers of the Scheme programing language