

Sasha Luccioni

Curriculum Vitae

✉ sasha.luccioni@mila.quebec

🌐 www.sashaluccioni.com

Professional experience

- 2019–Present **Postdoctoral Researcher**, *Université de Montréal + Mila*, Canada.
- Lead a project that involved developing and deploying new variations of conditional Generative Adversarial Networks (cGANs) to create images of the future effects of climate change based on the predictions of climate models, under the direction of Prof. Yoshua Bengio.
 - Worked with international stakeholders such as the United Nations and the World Health Organization, as well as local partners such as the Montreal Insectarium, on various projects in applying machine learning and data science in sectors such as healthcare, education and environment.
 - Pursued the integration of FATE (Fairness, Accountability, Transparency, and Ethics) content into the training programs at Mila to ensure that the new generation of machine learning researchers and practitioners are well-equipped to address these issues.
- 2018–2019 **AI/ML Researcher**, *Morgan Stanley AI/ML Center of Excellence*, Canada.
- Responsible for the development and deployment of end-to-end ML projects within the company, working on several projects for different divisions in the company.
 - Worked on several projects for different divisions in the company, bringing together textual and numerical information to find practical solutions to major challenges.
 - Presented results at the WiML workshop at NeurIPS 2019, and at several company-wide conferences and colloquia.
- 2017–2018 **NLP Research Scientist**, *Nuance Communications*, Canada.
- As member of Nuance's core research team, involved in creating and implementing algorithms and statistical techniques to develop and improve conversational dialogue systems.
 - Research projects include the usage of NLP techniques (vector representation, dependency parsing, word embeddings) and ML approaches (Regression, Decision Trees, Deep Learning) to improve algorithm performance.
 - Directly involved in writing reports presenting results and designing and delivering presentations regarding the approaches used and their impact both internally and to prospective and current clients.

Education

- 2012-2017* **Ph.D. in Cognitive Computing**, *Université du Québec à Montréal*, Montreal, Canada, *Maternity leave taken in 2014 and 2016.
- 2010-2012 **M.Sc. in Cognitive Science, Minor in Natural Language Processing**, *École Normale Supérieure*, Paris, France.
- 2007–2010 **B.Sc. in Language Science**, *Université Paris III: Sorbonne Nouvelle*, Paris, France.

Publications

- 2021 **What's in the Box? An Analysis of Undesirable Content in the Common Crawl Corpus.**
A. Luccioni, Joseph Vivano
ACL/IJCAI 2021
- From Artificial Intelligence Bias to Inequality in the Time of COVID-19.**
M Luengo-Oroz, J Bullock, KH Pham, CSN Lam, A. Luccioni
IEEE Technology and Society Magazine 40 (1), 71-79,2021
- 2020 **Analyzing Sustainability Reports Using Natural Language Processing.**
A. Luccioni, E. Baylor, N. Duchene
Tackling Climate Change workshop, NeurIPS 2020
- Geo-Spatiotemporal Features and Shape-Based Prior Knowledge for Fine-Grained Imbalanced Data Classification.**
C. Kantor, C., M. Skreta, B. Rauby, L. Boussieux, E. Jehanno, A. Luccioni, D. Rolnick, H. Talbot
2020 Harvard AI for Social Good Workshop poster presentation
- Artificial intelligence cooperation to support the global response to COVID-19.**
M. Luengo-Oroz, K. Hoffman-Pham, J. Bullock, R. Kirkpatrick, A. Luccioni
Nature Machine Intelligence
- Using Artificial Intelligence to Visualize the Impacts of Climate Change.**
A. Luccioni, V. Schmidt and Y. Bengio
Visualization Viewpoints IEEE Computer Graphics & Applications Magazine
- Mapping the landscape of artificial intelligence applications against COVID-19.**
J. Bullock, A. Luccioni K. Hoffman-Pham, M. Luengo-Oroz
Journal of Artificial Intelligence Research, Vol. 69
- Considerations, Good Practices, Risks and Pitfalls in Developing AI Solutions Against COVID-19.**
A. Luccioni, J. Bullock, K. Hoffmann-Pham, C. Sin Nga Lam, M. Luengo-Oroz.
AI for Social Good Harvard CRCS workshop spotlight presentation and poster.
- Estimating Carbon Emissions of Artificial Intelligence.**
A. Luccioni, A. Lacoste, V. Schmidt.
IEEE Technology and Society Magazine, 39(2), pp. 48-51
- Leveraging Digital Disruptions for a Climate-Safe and Equitable World.**
A. Luers, J. Garard, A. Clair, O. Gaffney, T. Hassenboehler, L. Langlois, M. Mougeot,
A. Luccioni *IEEE Society and Technology Magazine 39(2), pp. 18-31*
- On the Morality of Artificial Intelligence.**
A. Luccioni, Y. Bengio
IEEE Technology and Society Magazine

Establishing an Evaluation Metric to Quantify Climate Change Image Realism.

S. Zhao, [A. Luccioni](#), G. Cosne, M. Bernstein, Y. Bengio
Machine Learning: Science and Technology.

2019 **Quantifying the Carbon Emissions of Machine Learning.**

A. Lacoste, [A. Luccioni](#), V. Schmidt, T. Dandres
Tackling Climate Change with Machine Learning (NeurIPS 2019 Workshop)

Using Natural Language Processing to Analyze Financial Climate Disclosures.

[A. Luccioni](#), H. Palacios
Tackling Climate Change with Machine Learning (NeurIPS 2019 Workshop)

Tackling Climate Change with Machine Learning.

D. Rolnick, P. Donti, L. Kaack, A. Lacoste, K. Sankaran, [A. Luccioni](#), et al.
arXiv preprint:1906.05433.

Visualizing the consequences of climate change using cycle-consistent adversarial networks.

V. Schmidt, [A. Luccioni](#), K. Sankaran, J. Chayes, Y. Bengio
AI for Social Good Workshop, ICLR 2019

2018 **STI-DICO: an Intelligent Tutoring System to Foster Dictionary Skills for French Teachers-in-Training.**

[A. Luccioni](#)
Doctoral Dissertation, Université du Québec à Montréal

2016 **STI-DICO: A Web-Based ITS for Fostering Dictionary Skills and Knowledge.**

[A. Luccioni](#), J. Bourdeau, J. Massardi, R. Nkambou
European Conference on Technology Enhanced Learning (pp. 416-421)

STI-DICO: a web-based system for intelligent tutoring of dictionary skills.

[A. Luccioni](#), R. Nkambou, J. Massardi, J. Bourdeau, C. Coulombe
Proceedings of the 25th International Conference Companion on World Wide Web (pp. 923-928)

2015 **Overspecified references: An experiment on lexical acquisition in a virtual environment.**

[A. Luccioni](#), L. Benotti, F. Landragin
Computers in Human Behavior, 49, 94-101

2013 **Why do we overspecify in dialogue? An experiment on L2 lexical acquisition..**

A. Vorobyova ([Luccioni](#)), L. Benotti, F. Landragin
Workshop on the Semantics and Pragmatics of Dialogue (pp. 185-186)

Grants and Research Funding

- 2020-2021 **National Geographic - AI for Earth Innovation Grant.**
\$100,000 USD
- 2020-2022 **IVADO- Postdoctoral Scholarship.**
\$70,000 CAD per year for 2 years
- 2013-2017 **Fonds de Recherche du Québec - Société et Culture (FRQSC) - Doctoral Scholarship.**
\$25,000 CAD per year for 4 years
- 2012-2014 **MITACS - Globalink Scholarship.**
\$25,000 CAD per year for 2 years
- 2012-2016 **Université du Québec à Montréal - Foundation of Excellence Scholarship.**
\$10,000 CAD per year for 4 years

Student Supervision

- M.Sc. **Gautier Cosne**, 2019, Visualizing climate change project.
Ayesha Liaqat, 2019, Visualizing climate change project.
Emily Baylor, 2019-2020, ClimateQA project.
Sunand Raghupathi, 2020, Visualizing climate change project.
Alexia Reynaud, 2020, Visualizing climate change project.
Marta Skreta, 2020, eButterfly project.
Nicolas Duchene, 2020, ClimateQA project.
- Ph.D. **Melisande Teng**, 2019-2020, Visualizing climate change project.
Tianyu Zhang, 2020, Visualizing climate change project.

Teaching

- 2021- present **Machine Learning 1: Large-Scale Data Analysis and Decision-Making**, *HEC Montréal*, Graduate level.
- 2019-2020 **Intelligent Tutoring Systems**, *Université du Québec à Montréal*, Graduate level.
- 2019 **Introduction to Machine Learning**, *AI for Good Summer Lab*, Undergraduate level.
- 2015-2016 **Introduction to Computer Science and Programming**, *Université du Québec à Montréal*, Undergraduate level.
- 2013 **Environnements d'apprentissage à base de connaissances (TA)**, *TELUQ*, Graduate level.
- 2013 **Français élémentaire sur objectifs spécifiques (TA)**, *Université du Québec à Montréal*, Undergraduate level.

Community Engagement

- Content Chair **Climate Change AI**, 2019–present.
- Area Chair **AI for Social Good Workshop**, *IJCAI 2021*.

| | |
|----------------------------|---|
| Program Committee | Canadian Conference on Artificial Intelligence, 2021. |
| Co-organizer | Machine Learning Reproducibility Challenge 2020, 2020–present. |
| Reviewer and Meta-Reviewer | Tackling Climate Change With Machine Learning, Women in Machine Learning, AI for Social Good, AI for CompSust and Human well-being, Montreal AI Symposium, 2018–present. |
| Organizer | Tackling Climate Change With Machine Learning, ICLR 2020. |
| Organizer | AI4Good Montreal Conference and Hackathon, 2019, 2020. |
| Co-editor | Sustainability in the Digital Age, Special Issue in IEEE Technology & Society Magazine, 2020. |
| Associate member | Algora Labs, OBVIA, 2020–present. |
| Committee member | Expert committee on AI, ICT and the environment, Quebec Ministry of the Economy, Science and Innovation, 2020–present. |
| Committee member | Working group on the ethics of AI and the SDGs in Canada, Canadian Commission for UNESCO, 2020–present. |
| Scientific Advisor | KidsCodeJeunesse, Creative Destruction Lab, 2018–present. |
| Mentor | ICML Newcomer Initiative, Women in Machine Learning (WiML), 2020–present. |
| Board Volunteer | Women in Machine Learning (WiML), 2020– present. |

Selected Invited Talks

| | |
|---------|---|
| 02/2021 | Keynote Presentation. <i>AI for the Planet Virtual Conference</i> |
| 11/2020 | Keynote Presentation. <i>AI for Climate Global Forum 2020</i> |
| 10/2020 | TEDx Presentation. <i>CCAI TedXCountdown event</i> |
| 10/2020 | Keynote Presentation. <i>AI for Good Global Summit</i> |
| 08/2020 | AI and Ethics panel . <i>Deep Learning Reinforcement Learning Summer School</i> |
| 04/2020 | Women in Machine Learning Panel. <i>WiML Workshop – ICLR 2020</i> |
| 03/2020 | Keynote Presentation. <i>World Summit AI Americas</i> |
| 03/2020 | Keynote Presentation. <i>Women Techmakers Montreal</i> |

Selected Press

AI has a racism problem, but fixing it is complicated, say experts, *Jorge Barrera, Albert Leung, CBC News, May 17, 2021.*

Researchers Are Developing Tools to Calculate AI's Carbon Footprint, *Sara Castellanos, Wall Street Journal*, July 17, 2020.

Using AI to help contain COVID-19, *Université de Montréal Nouvelles*, March 30th, 2020.

AI Can Do Great Things—if It Doesn't Burn the Planet, *WIRED*, January 21st, 2020.

Les ravages des inondations avec les lunettes de 2050, *La Presse*, September 6th, 2019.

Getting the Picture on Climate Change, *Université de Montréal Nouvelles*, September 3rd, 2019.

L'intelligence artificielle au service de l'humanité, *La Presse +*, August 11th, 2019.

AI can show us the ravages of climate change, *MIT Technology Review*, May 16th, 2019.

Top AI researcher leaves Morgan Stanley for academia, *eFinancialCareers*, February 28th, 2019.

Languages

English, *native.*

French, *fluent.*

Russian, *native.*

Spanish, *intermediate.*

Citizenship

Canadian.

French.

Russian.