



EDUCATION

> **Mila - U. de Montréal, Montréal**
Jan 2019 - **Now**

PhD in Computer Science and Operations Research

Advised by Prof. Yoshua Bengio. Working on applications of Deep Learning to fight climate change. First project in computer vision with GANs, domain adaptation and multi-task learning to create personalized visualizations of climate related extreme events. Now working on graph neural networks and generative modeling (GFlowNets) applied to materials discovery.

> **University College London, London**
2016 - 2017

MSc. Machine Learning (with Distinction): Supervised learning, Graphical models, RL, NLP, Computer Vision.

NLP Research Internship with Prof. Riedel (4 months, UCL Machine Reading Group): Deep RL to answer questions using Wikipedia.

> **Ecole polytechnique, Paris**
2012 - 2016

Engineering degree (eq. MSc) **Entrepreneurship and Data Science** : Quantum Physics, Computer Science, Operations Research, Entrepreneurship, Data Science

> **Lycee Janson de Sailly, Paris**
2010 - 2012

Selective and intensive program preparing for the French engineering schools: Advanced Maths, Physics and Chemistry



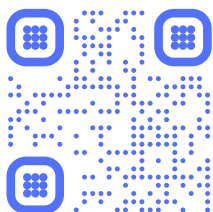
SKILLS

Computer Science

Python (incl. Flask) ● ● ● ● ●
JavaScript (incl. React) ● ● ● ● ●
HTML, CSS ● ● ● ● ●
Deep Learning: PyTorch, Tensorflow, Keras

Languages

French : mother tongue
English : fluent (114/120 TOEFL)
Spanish : average
Classic Arabic : beginner



INFO



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EXPERIENCE



> **Ministry for the Economy, Paris**

NLP Data Scientist Feb 2018 - Dec 2018

- **Document classification** and sentence highlighting
- **Validation web app** to measure noise in the labels and improve understanding of the models.
- **Translation** (Fr-En) proof of concept for fine-tuned NMT

> **Rythm, Inc. Paris**

Data Science Engineer Sep 2015 - Feb 2016

- **Deep learning infrastructure** using Keras & Lasagne
- Signal quality prediction based on two seconds of electro-encephalogram signal with LSTM networks
- **Backend** server to store and compare predictors

> **Lycee Janson de Sailly, Paris**

Maths Teacher Assistant Sep 2013 - Jun 2014

> **Gemalto, Singapore**

Software Engineer Intern Jul 2013 - Aug 2013

- Development of a mobile web app

OPEN SOURCE



metada.org website and browser extension showing the hierarchy of ownerships in the French media.

[ML-CO2](https://ml-co2.org) online carbon emissions calculator for Machine Learning.

[PaperMemory](https://papermemory.org) browser extension to automatically record papers, fetch code and match preprints to publications.

[Deep Learning tutorials](https://deeplearningtutorials.org) with Keras and Lasagne.

[CodeCarbon](https://codecarbon.org) a Python package to track and estimate the energy consumption of AI models.

[Minydra](https://minydra.org) Python command-line parser.

[ClimateGAN](https://climategan.org) code for the ICLR 2022 paper ([Huggingface space](https://huggingface.co))

thisclimatedoesnotexist.com an interactive website showcasing ClimateGAN: what if climate change came to your doorstep?

[StackOverflow](https://stackoverflow.com) reputation: 13.4k

RESEARCH



> Visualizing the Consequences of Climate Change

*V. Schmidt**, *A. Luccioni**, *S. K. Mukkavilli*, *N. Balasooriya*, *K. Sankaran*, *J. Chayes*, and *Y. Bengio*. AI for Social Good Workshop, ICLR 2019 (oral). Invited talk at ITU's AI for Good Global Summit 2019.

> Artificial intelligence based cloud distributor: probing clouds with GANs

T. Yuan, *H. Song*, *D. Hall*, *V. Schmidt*, *K. Sankaran*, and *Y. Bengio*. International Workshop on Climate Informatics, 2019.

> Quantifying the Carbon Emissions of Machine Learning

*A. Lacoste**, *A. Luccioni**, *V. Schmidt**, and *T. Dandres*. Climate Change AI Workshop, NeurIPS 2019. Online calculator: <https://mlco2.github.io/impact>.

> Using Simulated Data to Generate Images of Climate Change

*G. Cosne**, *A. Juraver**, *M. Teng**, *V. Schmidt**, *V. Vardanyan*, *A. Luccioni*, *Y. Bengio*. Machine Learning in Real Life Workshop, ICLR 2020 (oral).

> Modeling Cloud Reflectance Fields Using Conditional Generative Adversarial Networks

*V. Schmidt**, *M. Alghali**, *K. Sankaran*, *Y. Bengio* and *T. Yuan*. Climate Change AI Workshop, ICLR 2020 (spotlight).

> Predicting infectiousness for proactive contact tracing

*Y. Bengio**, *P. Gupta**, *T. Maharaj**, *N. Rahaman**, *M. Weiss**, *T. Deleu*, *E. B. Müller*, *M. Qu*, *V. Schmidt*, *P.-L. St-Charles*, *H. Alsdurf*, *O. Bilaniuk*, *D. L. Buckeridge*, *G. Marceau-Caron*, *P. L. Carrier*, *J. Ghosn*, *S. Ortiz-Gagne*, *C. J. Pal*, *I. Rish*, *B. Schölkopf*, *A. Sharma*, *J. Tang*, *A. Williams*. ICLR 2021 (spotlight).

> ClimateGAN: Raising Climate Change Awareness by Generating Images of Floods

*V. Schmidt**, *A. Luccioni**, *M. Teng*, *T. Zhang*, *A. Reynaud*, *S. Raghupathi*, *G. Cosne*, *A. Juraver*, *V. Vardanyan*, *A. Hernandez-Garcia*, *Y. Bengio*. ICLR 2022. Website: thisclimatedoesnotexist.com

> Surface micropatterning for the formation of an in vitro functional endothelial model for cell-based biosensors

Z. Khadir, *V. Schmidt*, *K. Chabot*, *J.-F. Bryche*, *U. Froehlich*, *J. Moreau*, *M. Canva*, *P. Charette*, *M. Grandbois*. Biosensors and Bioelectronics.

> PhAST: Physics-Aware, Scalable, and Task-specific GNNs for accelerated catalyst design

*A. Duval**, *V. Schmidt**, *A. Hernández-García*, *S. Miret*, *Y. Bengio*, *D. Rolnick*. AI for Materials Workshop, NeurIPS 2022.

> FAENet: Frame Averaging Equivariant GNN for Materials modeling

*A. Duval**, *V. Schmidt**, *A. Hernández-García*, *S. Miret*, *F. Malliaros*, *Y. Bengio*, *D. Rolnick*. ICML 2023.

OTHER



> Reviewer

- AI for Social Good Workshop, NeurIPS 2019
- WiML, NeurIPS 2019
- AI for Geosciences Workshop, ICLR 2020
- Climate Change AI Workshop, ICLR 2020
- ICLR 2022 Blog Track

> Supervisions

- 11 interns over 3 years on the ClimateGAN project
- 4 Humanitarian AI interns individual co-supervision
- 2 MSc. Pro. internship advisor
- 2 MSc. direct supervision
- TA and projects advisor for IFT 3710/6759 Advanced Projects in ML (x2)
- Currently co-supervising 2 interns (MSc.).