

# ***Simon Demeule***

## *simondemeule.com*

## *Education*

Diploma	Establishment	Date	Status
Masters in Artificial Intelligence	Université de Montréal	2020 - 2022	ongoing
Bachelors of Computer Science, Computer Applications with Computation Arts	Concordia University	2017 - 2020	graduated
Cegep — Natural Sciences	Cégep Sainte-Foy	2015 - 2017	graduated

## *Awards*

Title	Establishment	Date
Dean's List Graduation Award	Concordia University	2020
Concordia Undergraduate Student Research Award (NSERC Grant)	Concordia University	2019
Focal Points End of Year Exhibition DCART Prize	Concordia University	2019
Concordia University Golf Classic Entrance Scholarship	Concordia University	2017

## *About Me*

I have always been deeply interested by computer science, mathematics, and art. I have explored these disciplines through my education, research projects, art pieces, and multiple personal side projects, some of which are listed here. I am most interested by computer graphics, computer vision, real-time sound processing for music and the mathematics related to it; signal processing, Fourier and wavelet techniques. I am currently pursuing a masters in artificial intelligence at UdeM, where I hope to use that knowledge to explore new techniques for machine learning.

# Relevant Work Experience

Job Description	Employer	Reference	Date
Research assistant as a software developer (C++ backend using Qt)	Concordia University	<b>Christopher Salter</b> <a href="http://chrissalter.com">chrissalter.com</a>	2020
Teaching assistant in computer graphics (OpenGL)	Concordia University	<b>Kaustubha Mendhurwar</b> <a href="mailto:kaustubha.mendhurwar@concordia.ca">kaustubha.mendhurwar@concordia.ca</a> <b>Nicolas Bergeron</b> <a href="mailto:bergeron@encs.concordia.ca">bergeron@encs.concordia.ca</a>	2019 - 2020
Teaching technology and coding to youth	Les Ateliers Kikicode	<b>Christine Durant</b> (514) 569-7167 <a href="mailto:kikinumerique@gmail.com">kikinumerique@gmail.com</a>	2018 - 2019

# Relevant Skills

Languages	Research Interests	Programming Languages	Frameworks & Libraries
<ul style="list-style-type: none"><li>• French</li><li>• English</li></ul>	<ul style="list-style-type: none"><li>• Machine Learning</li><li>• Signal Processing</li><li>• Computer Graphics</li><li>• Computer Vision</li><li>• Digital Arts</li></ul>	<ul style="list-style-type: none"><li>• C++</li><li>• C</li><li>• Python</li><li>• Java</li><li>• JavaScript</li></ul>	<ul style="list-style-type: none"><li>• OpenGL</li><li>• OpenCL</li><li>• Qt</li><li>• Numpy</li><li>• TensorFlow</li><li>• Unity</li><li>• NodeJS</li></ul>

# Relevant Projects

- Creator of a multitude of multimedia art pieces, see [simondemeule.com](http://simondemeule.com) (2014-2020).
- Creator of *Curvature*, an experimental hybrid raytracing / raymarching 3D rendering engine that allows bending light with a novel, efficient algorithm. See [github.com/simondemeule/Curvature](https://github.com/simondemeule/Curvature) (2019-2020).
- Backend developer for *autonomX*, a software for multimedia artist to experiment with realtime dynamical systems that display lifelike behaviours, created as part of a research-creation project with Concordia's Xmodal laboratory. See [github.com/Xmodal/autonomX](https://github.com/Xmodal/autonomX) (2020).
- Led an NSERC-funded research project on the application of CRBM models for real-time audio generation for use in music, and developed techniques borrowed from the study of linear systems to manipulate sounds by transforming learnt parameters directly (2019).