

# Louis-Simon Mc Nicoll

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Languages: English, French and Japanese

## ***Technical Knowledge***

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### **Programming Languages**

C++, Javascript, Python, Java, C#, Rust

### **Frameworks**

Android, NodeJS, React, Angular 2, Unity, Spring, QML, Qt

### **Libraries**

Scikit-learn, Tensorflow, Boost

### **Databases**

MongoDB, Elasticsearch, MySQL, SQLite

## ***Professional Experience***

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### **Analyst & Web Developer**

August to December 2019

Pratt&Whitney Canada, Longueuil

- Devised the architecture for the IIOT platform
- Implemented a data analytics web platform for machine downtime
- Gathered customer requirements and used them to redesign a machine downtime data visualization web interface

### **Web Developer - AI department**

June to December 2018

Rakuten Inc., Tokyo

- Provided chatbot functionality through web APIs
- Maintained and improved a chatbot administration web portal
- Implemented a data visualization module to analyze chatbot failures
- Created a face recognition POC for personal identification

### **Android Developer**

May to August 2017

mPhase, Montreal

- Interacted with clients to understand problems and explain and negotiate possible solutions
- Developed an elementary school transportation tracker system
- Collaborated with a client company to create a media file download library using DASH

## **Database Developer**

May to August 2016

L'Aviron, Laval

- Built a database to manage the residents' personal files
- Developed an automatic report production system

## **Projects**

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### **Physics-based Fluids Simulation**

2020

- Implemented a real-time fluids simulation using position-based fluids
- Integrated with an existing game engine (Godot) for visualization

### **Rigid Body Simulation with contacts**

2020

- Implemented a projected Gauss-Seidel iterative solver
- Created a sphere and box collision detection system

### **Random Map Generation**

2018

- Created a random map generation using Voronoi diagrams and Delaunay triangulation
- Integrated Dijkstra-based pathfinding

### **Poisson Disk Sampling**

2018

- Implemented a research article's algorithm (Bridson 2007) for random number generation using Rust

## **Education**

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### **Undergraduate in Software Engineering**

2016 - August 2020

École de technologie supérieure (ÉTS)

### **College Diploma in Computer Science Technology**

2016

Bois-de-Boulogne College

## **Programming Events**

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### **Montreal Game Jam**

2017 and 2019

- Created a point&click 3D game with Unity
- Created a platforming game in fake 2D with Unity

## **Hobbies**

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### **Japanese Language Study**

April 2017 to present

Canada College and CLC Montreal