

PHILIPPE MARCOTTE

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EXPERIENCE

R&D Developer

La Forge - Ubisoft

📅 May 2020

📍 Montreal, Canada

- Developing tools to support scientists and their research
- Industrialization of research projects as minimum viable product
- Managing compute farm

Applied Research Intern

Druide

📅 August - November 2019

📍 Montreal, Canada

- Researching the best ways to tackle grammatical error correction problems with state-of-the-art NLP models in the context of integrating the solutions to the main software, Antidote.
- Establishing a pipeline from raw data to training and testing models quickly.

Analyst Programmer Intern

Giro

📅 May - August 2017

📍 Montreal, Canada

- Developing web tools in Javascript to help developers manage tickets and issues on Team Foundation Server (TFS).
- Correcting bugs on back-end applications in C# for the integration of TFS to Visual Studio.

C++ Developer Intern

Audiokinetic

📅 May - August 2016

📍 Montreal, Canada

- Adding features to the sound engine editor's (Wwise) UI.
- Adding features to the C++ sound engine.

LANGUAGES

- Français: Native language
- English: Spoken, written and read

HOBBIES

- Bouldering
- Video games
- Cooking and listening to music.
- Self-hosting web services for the sake of it.

EDUCATION

Machine Learning

Professional Master's Degree

📅 May 2020

📍 Mila/Universite de Montreal

Software Engineering

Bachelor's Degree

📅 2018

📍 Polytechnique de Montreal

TECHNICAL SKILLS

- Python, C++, C#, HTML/CSS, JavaScript
- Pytorch, Deep Learning, Reinforcement Learning, NLP, Computer Vision
- Git, Docker, Linux
- Test Driven Development, Continuous Integration/Delivery, Agile

ACHIEVEMENT

AI Driving Olympics - Neurips 2019

- Winner of the Lane Following with other vehicles category
- Second place in the Lane Following category

PROJECTS

Residual Policy Learning for self-driving robot [↗](#)

- For a robotic class named [Duckietown](#), we had robots using a camera to follow a road in a model city. The goal was to improve the existing system. We used a Pure Pursuit controller has a basis but refined it using [Residual Policy Learning](#). Instead of modelizing the whole system using Reinforcement Learning, we modeled only a correction that would be applied on top of the controller as to make it better. To achieve this, we adapted [DDPG](#) to our case and trained using ROS and Pytorch.

HDR image generation with deep learning

[↗](#)

- The project was a complete reimplementaion using Python and Pytorch of the experiment described in this [paper](#). The experiment consisted in fusing three ordinary images (Low Dynamic Range) of different exposition time from the same scene in one HDR image. For this reason, an optic flow algorithm was used to align the lowest and highest exposition on the normal exposition image. Then, a convolutional network was used to model the fusing process.

Please visit my website for more. [↗](#)