PHILIPPE MARCOTTE

@ marcotte_philippe@hotmail.com
philippemarcotte.github.io github.com/PhilippeMarcotte in/philippe-marcotte-80b025b4 438-391-8381

EXPERIENCE

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.

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.

Junior Software developer
XYJ

July 2015 - January 2016 Montreal, Canada

- Development of web scrapers for automatic data collection on clients' competitors.

TECHNICAL SKILLS

- Python, C++, C#, Java, HTML/CSS, JavaScript
- Pytorch
- Git
- Test Driven Development, Continuous Integration, Agile
- Design patterns
- MySQL - MongoDB

LANGUAGES

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

HOBBIES

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

EDUCATION

Machine Learning
Professionnal Master

May 2020 Mila/Universite de Montreal

Software Engineering
Bachelor's Degree

2018 Polytechnique de Montreal

Sciences, Mathematics and Computer science
Diploma of Collegial Studies

2014 College Bois-de-Boulogne

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 PID 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 PID controller as to make it better. To achieve this, we adapted DDPG and used a variety of pretraining.

HDR image generation with deep learning

- The project consisted in reproducing 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.

Online Driving Robot Simulator

- For my third project class during my undergrad studies, we had to port a driving game, made during the second year on Windows in C++, to iPad and add a networking component. The latter entailed being able to edit map a la Google Doc and having multiple players driving on it at the same time. The iPad application also had to work online. I lead the team that worked on the iPad application where we had to redo the whole application back-end and create a new front-end. I also implemented an instant messaging system for the iOS application.

Please visit my website for more.