Félix G. Harvey

Ph.D candidate at Polytechnique Montreal & Mila - Quebec AI Institute,
under the supervision of Dr. Christopher Pal

+ 1 (438)-822-9516

c212.felixh@gmail.com

Google Scholar

Linkedin

EDUCATION

Doctorate of Philosophy Polytechnique Montreal and Mila
Montreal, CA. | 2016 - Present | Supervised by Dr. Christopher Pal
Computer Engineering
Deep Learning

Master of Science Polytechnique Montreal and Mila
Montreal, CA. | 2016 | Co-Supervised by Dr. Christopher Pal and Dr. Michel Gagnon
Computer Engineering
Deep Learning

Bachelor of Science Polytechnique Montreal
Montreal, CA. | 2014
Software Engineering
Multimedia specialization

RESEARCH AND TEACHING EXPERIENCE

Research Intern La Forge - Ubisoft
Montreal, CA. | 2016 - present
Prototyping of recurrent neural network-based solutions for automatic generation of character animation transitions.
Prototyping of a semi-supervised approach for 3D motion classification.

Teaching Assistant Polytechnique Montreal
Montreal, CA. | 2018 | with professor Christopher Pal
Probabilistic and learning techniques (INF8225)

Teaching Assistant Polytechnique Montreal
Montreal, CA. | 2014, 2016 | with professor Christopher Pal
Advanced computer graphics (INF8702)

PUBLICATIONS AND PROJECTS

Robust Motion In-betweening
Félix G. Harvey, Mike Yurick, Derek Nowrouzezahrai, Christopher Pal. *SIGGRAPH 2020*
Building on Recurrent Transition Networks, we address their limitations through additive latent modifiers to improve robustness to time and target variations, as well as to enable stochastic sampling of transitions.

Recurrent Transition Networks for Character Locomotion
Félix G. Harvey, Christopher Pal. *SIGGRAPH ASIA 2018 Technical Briefs*
We propose a novel approach to motion completion with conditional recurrent neural networks that allows for animating from temporally sparse keyframes.

Recurrent Semi-Supervised Classification and Constrained Adversarial Generation with Motion Capture Data
Félix G. Harvey, Julien Roy, David Kanaa, Christopher Pal. *Image and Vision Computing 78, 42-52, 2018*
We propose a multi-objective semi-supervised approach to action classification that can leverage large amounts of unlabeled motion capture data to improve performance on small datasets.
We also propose a novel physically-based regularizer for adversarial training for motion generation.

MuVR: Real-time 3D Music Visualizer with Oculus Rift
Félix G. Harvey, Maxime Tousignant, Simon Racine, Guillaume Riendeau, 2015
Side-project built with Oculus Rift's development kit 1 to visualize music in a virtual world, based on a voxel tunnel with regions reacting to different frequencies.

Air Instruments: Controller-free Interactive 3D Musical Game
Félix G. Harvey, François Pierre-Doray, Simon Delisle, Alexandre Vanier, 2014
Air Instruments was developed as a final B. Sc. project and presented at Laval Virtual, in France.
It combines movement capture through RGB-D cameras and rigid-body interactions for instrument playing.

PROGRAMMING

General
Python

Auto-differentiation
Pytorch, Tensorflow

Version-control
Git

Typesetting
LaTeX

Additional previous experiences
C++, C#, OpenGL, Unity

AWARDS

Polytechnique Montreal, 2009
Excellence Grant

Laval Virtual, 2014
2nd place, demos category
3rd place, limited time category

LANGUAGES

French
Mother tongue

English
Fluent

HOBBIES

Sports
Badminton ◦ Squash ◦ Spikeball

Music
Guitar ◦ Piano ◦ Drums

Others
Scuba-diving
SSI Open Water certification
SSI Advanced Adventurer certification

Board games

MISCELLANEOUS

YouTube partner, 2006-2011
Created 2D flash animations that accumulated a total of more than 65M views.