

Olivier Nguyen

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EDUCATION

University of Waterloo

Master of Applied Science in Electrical & Computer Engineering

Supervisors: Mark Crowley, Joon Lee

Waterloo, Canada

Sep 2016 – Aug 2018

Concordia University

Bachelor of Computer Engineering, with Distinction

Montreal, Canada

Sep 2012 – May 2016

EXPERIENCE

Element AI

Applied Research Scientist

Montreal, Canada

Sep 2018 – Present

- Researching and applying deep learning to various natural language processing problems.
- Prototyping and implementing solutions using TensorFlow, Keras and PyTorch.
- Participating in the discussion and planning of research projects.

University of Waterloo

Research and Teaching Assistant

Waterloo, Canada

Sep 2016 – Aug 2018

- **Research - Machine Learning:** Researched on data-driven decision making in health-care, mobile health, machine learning and deep learning.
- **Teaching - Data Structures & Algorithms (ECE250):** Assisted students during lab hours for programming assignments. Marking assignments, labs and exams.

NTT Media Intelligence Lab

Research Intern (Co-op)

Yokosuka, Japan

Jan 2015 – Aug 2015

- Built, trained & evaluated CNNs and SVMs for video classification using Caffe and scikit-learn.
- Trained a VGG-Net model and extracted deep features for the TRECVID Media Event Detection 2015.

Thales Group/Concordia University

Research Assistant

Montreal, Canada

May 2014 – Dec 2014

- Implemented signal processing algorithms on a TMS570 microcontroller in C for amplitude estimation of a sensor.
- Optimized code to meet real-time requirements using a fixed point implementation.

CAE

Software Developer Intern (Co-op)

Montreal, Canada

Sep 2013 – Dec 2013

- Developed automated system tests in C++ for the synthetic environment simulation used in flight simulators.
- Increased code coverage by 30% after completing the test plan.
- **Achievement:** Co-op Employers Choice Nominee (2013-2014)

SELECTED PUBLICATIONS

- Ben Kim, **Olivier Nguyen**, Arjun Puri, Joon Lee. *Smart activity tracker adherence and acceptance by older adults*. IEEE Biomedical and Health Informatics (2018).
- Puri Arjun, Ben Kim, **Olivier Nguyen**, Paul Stolee, James Tung, Joon Lee. *User Acceptance of Wrist-Worn Activity Trackers Among Community-Dwelling Older Adults: Mixed Method Study*. JMIR mHealth and uHealth 5-11 (2017).
- **Olivier Nguyen**, Yongqing Sun, Kyoko Sudo, Akira Kojima. *Semantic Video Classification by Fusing Multimodal High-Level Features*. Meeting on Image Recognition and Understanding (2015).

RESEARCH PROJECTS

• PASS Healthy Data Behavior Challenge - Canada

- Developed a system that filters and aggregates Twitter data to provide population-level indicators of physical activity, sedentary behaviour and sleep for all health regions in Canada
- Built a deep learning model consisting of a 1D-CNN with pre-trained word-embeddings that classified tweets to different health indicators using a small dataset

PROJECTS

- **Open Source Developer** *Google Summer of Code 2017*
 - Applied machine learning algorithms to health data for mortality prediction.
 - Wrote software patches for the core C++ library.
 - Blogged weekly about the data project and showcased the Shogun library with tutorials.
- **Self-Driving Car Nanodegree** *Udacity*
 - **Traffic sign classifier:** Implemented a traffic sign classifier using Tensorflow with over 96% accuracy.
 - **Behavioral cloning:** Trained a deep learning model to mimic the behavior of a human driver in a car simulator.
 - **Road lane detection:** Coded the pipeline to identify lane boundaries in a video from a car's front-facing camera.
 - **Vehicle detection:** Wrote the pipeline to detect & track cars in a video stream using HOG and a LinearSVM.
- **Lung Cancer Detection (Kaggle):** Ranked 535/1679; Built a deep learning model that predicts whether or not a patient will develop lung cancer using CT scan images.
- **LearnStream (UofTHacks IV):** 3rd Place; Android app for students with hearing impairments that transcribes speech from a lecture to text in real time.
- **EyeTalk (Hack4Health 2.0):** Hackathon Winner; Android app that uses eye-tracking for communication to help people with severe speech disorders and hand impairments.
- **ConSat-3 (CSDC3):** 1st Place; Developed and integrated embedded Linux software applications for a cube satellite.
- **Machine Competition (Jeux de Genie 2015):** 1st Place; Developed the software for a fully autonomous robot that had to complete multiple tasks around a complex track. The robot won the 1st prize competing against participants in all engineering schools in Quebec.

TECHNICAL SKILLS

Programming Languages: Python, C, C++, Java, bash.

Technologies: Git, Numpy, Scikit-learn, Pandas, Keras, TensorFlow, OpenCV, Pytorch.

Operating Systems: GNU/Linux (Ubuntu), Windows, Android.

Languages: English, French, Vietnamese, Spanish (Basic).

AWARDS

2nd Place Capstone (Senior Design Project)	2015
Daniel Harrison International Work Term Grant (Co-op Award)	2015
1st Place Engineering Team Design Project Award (Junior Design Project)	2014
Dean's List	2013
Electrical and Computer Engineering Entrance Scholarship	2012