Étienne Pepin

Languages:
English and French

etienne.pepin78@gmail.com
Portfolio: petienn.github.io

Education

Master in Automated Manufacturing Engineering with Thesis 2018 - 2020
Computer Vision - Machine Learning - Probability Theory - Python *École de Technologie Supérieure, Montréal*

Bachelor of Automated Manufacturing Engineering 2016 - 2018
Programming - Robotics - Mechanical systems *ÉTS*

Doctorate's research 2022 - 2023
Data Analysis - Machine Learning - Probability Theory - Clustering - Python *ÉTS*

Relevant Experience

Researcher 2019 - 2020
Simulation and digital health, National Research Council Canada *Boucherville, Qc*

- Develop a segmentation procedure for CT images of the torso, based on a Dense-Vnet.

Laboratory Instructor 2020, 2022
École de Technologie Supérieure *Montreal, Qc*

- Prepare, deliver and grade laboratories for a master's level computer vision class.

Software Developer (Internship) 2018
Teledyne Dalsa *Montreal, Qc*

- Develop a C# library to control precisely a cart used in 3D laser scanning.
- Create and code a communication and control protocol between a C# application and an Arduino.

IVVQ Expert (Internship) 2016
Thales Canada Inc., Avionics *Montréal, Qc*

- Design logic tests for quality control in the DO-178C certification process.

Research

Keypoint Masking for Analyzing Segmented Medical Image Data 2020
Master's Thesis *available on portfolio*

Develop a procedure to limit noise associated with keypoints extracted from a masked image. This procedure is based on Gaussian filters' properties.

Large-Scale Unbiased Neuroimage Indexing 2020
Refereed publications in conference proceedings, based on the thesis, MLCN 2020 *available on portfolio*

Skills

Software

Languages: Python, C#, MATLAB, C, SQL, C++, Arduino
Librairies: Numpy, SciPy, Pandas, OpenCV, TensorFlow, NiftyNet

Machine Learning

Deep learning, transfer learning, regression, classification, convolutive networks, clustering, Dense-Vnet for medical segmentation

Computer Vision

Pre-processing, feature extraction, image analysis, detection and segmentation, medical imaging, 3D SIFT-Rank keypoints, multidimensional Gaussian filters

Mathematics

Probability theory, statistics, distance distributions in high dimensions, nearest neighbors