Étienne Pepin

Languages:
English and French

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

Education

Master's Degree in Automated Manufacturing Engineering *(ÉTS)* 2018 - 2020
École de technologie supérieure (ÉTS) *Montréal, Qc*

Doctorate in engineering (non-completed) 2022 - 2023

Bachelor of Automated Manufacturing Engineering *(ÉTS)* 2016 - 2018

Associate's Degree in Engineering Technologies 2008 - 2011
CÉGEP André-Laurendeau *Montreal, Qc*

Relevant Experience

Researcher (Scholarship) 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
École de Technologie Supérieure *Montreal, Qc*

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

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

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

Research

Distance distribution estimation from nearest neighbors 2022-2023
PhD research

Theoretical research based on distance distributions, nearest neighbors
modeled with order statistics and parameter estimation. Used for local distance distribution parameter estimation.

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

Procedure for keypoint extraction from a masked image reducing noise based on Gaussian filter properties.

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

Skills

Deep learning
deep learning, transfer learning, regression, classification, convolutive networks
Research: clustering based on distance distribution, dense Vnet for medical segmentation

Computer Vision
pre-processing, feature extraction, image analysis, detection and segmentation, medical imaging
Research: 3D SIFT-Rank keypoints, dense Vnet and multidimensional Gaussian filters

Software
Languages: Python, C#, MATLAB, C, C++, Arduino
Libraries: OpenCV, SciPy, Pandas, TensorFlow, NiftyNet, Keras

Mathematics
probability theory, statistics, distance distribution in high dimensions, nearest neighbors