Étienne Pepin

Languages:
English and French

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

Relevant Experience

École de Technologie Supérieure　　　　2020, 2022
Laboratory Instructor for a computer vision class (SYS809)　　　*Montréal, Qc*

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

National Research Council Canada　　　　2019 - 2020
Computer Vision Researcher　　　*Boucherville, Qc*

- Create an automatic process to clean, validate and align medical 3D images.
- Develop a segmentation procedure for images of the torso based on state-of-the-art deep learning methods.

Teledyne Dalsa　　　　2018
Software Developer　　　*Montréal, 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.

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

- Design logical tests ensuring rigorous quality of aeronautical software.

Education

Doctorate's studies　　　　2022 - 2023
Develop a clustering algorithm for data in high dimensions.　　　*École de technologie supérieure (ÉTS)*

Master in Automated Manufacturing Engineering with Thesis　　　　2018 - 2020
Research in medical imaging with studies in artificial vision, deep learning, and mathematics.　　　*ÉTS*

Bachelor of Automated Manufacturing Engineering　　　　2016 - 2018
With a focus on intelligent systems.　　　*ÉTS*

Publication

Étienne Pepin, Jean-Baptiste Carluer, Laurent Chauvin, Matthew Toews and Rola Harmouche. (2020). Large-Scale Unbiased Neuroimage Indexing via 3D GPU-SIFT Filtering and Keypoint Masking. *Machine Learning in Clinical Neuroimaging and Radiogenomics in Neuro-oncology.* https://doi.org/10.1007/978-3-030-66843-3_11

Skills

Software

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

Machine Learning

　　　Deep learning, transfer learning, classification, convolutive networks, supervised and unsupervised learning.

Computer Vision

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

Mathematics

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