# BRAD NIEPCERON

PhD. candidate in Computer Science

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## EDUCATION

**University of Picardie Jules Verne, FR** *September 2018 - Present*
PhD. Computer Science
Thesis title : Developing brain tumor diagnosis applications based on Artificial Neural Networks

**University of Picardie Jules Verne, FR** *September 2016 - June 2018*
M.Sc. Computer Science
Cloud Computing and Machine Learning

**University of Picardie Jules Verne, FR** *September 2015 - June 2016*
B.S. Computer Science
Web development

**University of Tours, FR** *September 2013 - June 2015*
Vocational Degree
Web design and development

## EMPLOYMENT

**Research Assistant** *April 2018 - September 2018*
MIS Laboratory, Amiens, FR
Study of Autoencoder networks for anomaly detection in connected buildings
Supervisors : Dr. Adrien Legrand and Dr. Harold Trannois

**Research Assistant** *April 2017 - September 2017*
MIS Laboratory, Amiens, FR
Implementation of a time series data generation application to mimick home automation sensors
Supervisors : Dr. Adrien Legrand and Dr. Harold Trannois

**Web Development intern** *April 2015 - August 2015*
Pixim Communication, Saumur, FR
Development of registration applications for event organisation

## PUBLICATIONS

### Journal Articles

Niepceron, B., A. Nait-Sidi-Moh and F. Grassia. “Moving Medical Image Analysis to GPU Embedded Systems: Application to Brain Tumor Segmentation.” Applied Artificial Intelligence 34 (2020): 866 - 879.

### Conference Articles

Niepceron, B., A. Nait-Sidi-Moh and F. Grassia. "Study of Pulse-Coupled Neural Network for Glioma Segmentation." In Proceedings, 26th International Symposium on Artificial Life and Robotics (2020): 110 - 115.

Legrand, Adrien, Brad Niepceron, Alain Cournier and H. Trannois. "Study of Autoencoder Neural Networks for Anomaly Detection in Connected Buildings." 2018 IEEE Global Conference on Internet of Things (GCIoT) (2018): 1-5.

### Working Titles

Niepceron, B., A. Nait-Sidi-Moh and F. Grassia. "Brain tumor detection using Selective Search and Pulse-Coupled Neural Network feature extraction". Submitted and Accepted in International Conference on Informatics Revolution for Smarter Healthcare 2021.

Niepceron, B., A. Nait-Sidi-Moh and F. Grassia. "Spiking convolutional neural network for brain tumor classification".

## TEACHING EXPERIENCES

**Infrastructure as a Service** *2018-2021*
Course given to the Cloud Computing and Mobility Master Degree at University of Picardie
90 hours

**Python programming** *2019-2021*
Course given to the Embedded Systems Master Degree at University of Picardie
32 hours

**Multitasking and parallel programming** *2019-2021*
Course given to the Embedded Systems Master Degree at University of Picardie
48 hours

## RESEARCH PROJECTS

**COVID Task Force** *March 2020*
Implementing a predictive model to unclog the emergency services of Amiens' hospital
This project was done in collaboration with the MIS laboratory as a response to the 2nd COVID wave in northern France.

**Car parts classification** *January 2017*
Developing a neural network for the classification of car parts to ease 3D modeling

## SEMINARS

**Colloque Droit & Médecine** *September 2021*
Artificial Intelligence in the medical field, opportunities and limits

**EU Interreg AiBle** *July 2021*
AI & Exoskeleton Workshop Webinar
Move brain tumor diagnosis to cost-efficient systems

**Journée de la SAGIP** *July 2021*
Developing brain tumor diagnosis applications using Artificial Neural Networks

**6ème Journées Régionales des Doctorants de l'Automatique** *July 2019*
Brain tumor segmentation using convolutional neural networks

**Journée des doctorants du LTI** *June 2019*
Compressed convolutional neural network for brain tumor segmentation.
Best poster award.

**Be Zend 2018** *Avril 2018*
Using recurrent neural networks for bitcoin price prediction

## AWARDS

**Young Author Award** *February 2021*
AROB 26th 2021
Study of pulse-coupled neural networks for glioma segmentation

**Best Poster Award** *June 2019*
PhD Student Day, Laboratory of Innovative Technologies
Neural network compression for brain tumor segmentation

## TECHNICAL SKILLS

**Programming languages**
Python, R, Javascript, Ruby, MATLAB

**Spiking neural networks simulators**
Brian2, BindsNet, SpykeTorch, ANNarchy

**Machine learning frameworks**
Tensorflow, PyTorch, Scikit-Learn, Keras, ML Engine

**Cloud Computing**
Amazon Web Service, Google Cloud Platform, Open Nebula, Openstack, Kubernetes