

NATHAN HUBENS

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RESEARCH INTERESTS

- **Computer Vision:** Scalable Object Detection, Large Scale Image Classification, Scene Recognition
- **Deep Learning:** Generative Model, Model Compression and Speedup

EDUCATION

Joint Ph.D. Student Faculty of Engineering of Mons (Belgium) Telecom SudParis (France) Neural Network compression and fake news detection.	<i>Oct. 2018 - Now</i>
M.Sc. of Engineering Faculty of Engineering of Mons (Belgium) Majoring in Electrical Engineering with Multimedia and Telecommunications specialization.	<i>Sep. 2016 - Jul. 2018</i>
B.Sc. of Engineering Faculty of Engineering of Mons (Belgium) Majoring in Electrical Engineering.	<i>Sep. 2012 - Jul. 2016</i>
Fast.ai Deep Learning course Part 1 & 2 University of San Francisco (remote course) Exploration and implementation of cutting-edge deep learning techniques.	<i>Oct. 2018 - Apr. 2019</i>
Creactifs Evening Classes Faculty of Engineering of Mons (Belgium) openFrameworks, PureData, Processing.	<i>Sep. 2013 - Jul. 2015</i>

EXPERIENCE

Master Thesis Creaceed · Image Super-resolution and Denoising using Deep Neural Networks; · Model compression and speed-up; · Integration of the solution on mobile devices (iOS).	<i>Feb. 2018 - Jun. 2018</i>
Internship Creaceed · Exploration of deep learning techniques in the context of image processing; · Realization of a deep neural network for image restoration tasks.	<i>Jul. 2017 - Sep. 2017</i>
Executive Secretary YEP'tech Mons · Junior Initiative providing professional experience to engineering students through projects and training; · http://www.yeptechmons.com	<i>Sep. 2015 - Jun. 2017</i>

PUBLICATIONS

- Hubens N. et al., 2020. An Experimental Study of the Impact of Pre-Training on the Pruning of a Convolutional Neural Network. In Proceedings of the 3rd International Conference on Applications of Intelligent Systems (APPIS 2020).

- Delbroucq J.B., Hubens N., Maiorca A., Dupont S., "Modulated Self-attention Convolutional Network for VQA". In NeurIPS 2019 Workshop on Visually-Grounded Interaction and Language (ViGIL 2019)

CERTIFICATIONS

Hands on AI | *UMONS*

- Object Recognition and Detection;
- Reinforcement Learning.

Deep Learning Specialization | *Coursera (MOOC)*

- Neural Networks and Deep Learning;
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization;
- Structuring Machine Learning Projects.

HONORS & AWARDS

Accenture's Collaboration Prize | *Hands on AI Hackathon*

Creation of a threat detection DNN and integration on a Raspberry Pi using an Intel Movidius.

Semi-Finalist in Step Challenge | *La Maison de l'Entreprise*

Entrepreneurship contest for students. Finished in the top 8 out of 180+ participants.

PROJECTS

fastai - Contributor

Deep Learning ◊ PyTorch ◊ Python

A high-level neural networks API, written in Python.

Medium - Technology Writer

Deep Learning ◊ Computer Vision

Writer for the *Towards Data Science* publication.

SonicCloud3D

Virtual Reality ◊ Oculus Rift ◊ LeapMotion ◊ Unity

Creation of an immersive audio environment using an Oculus Rift and a LeapMotion.

SKILLS & LANGUAGES

- **Programming:** Python, Swift, C++, MATLAB;
- **Framework:** PyTorch, fastai, Keras, OpenCV, Pandas, Matplotlib, Numpy;
- **Language:** French (mother tongue), English (level C1), Dutch (level B2), Japanese (beginner).