DI MARTINO Thomas
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EDUCATION	2020 - 2023 • **PhD Student (AI & Remote Sensing)** • SONDRA @ CentraleSupélec, Gif-sur-Yvette, France *Study of change detection in SAR Time Series of forest imagery, with the help of Deep Learning methods. Shared research activities between the site of CentraleSupélec and ONERA Palaiseau* 2019 - 2020 • **MSc in Artificial intelligence with Speech & Multimodal Interaction (with Distinction)** • Heriot-Watt University, Edinburgh 2017 - 2020 • **Engineering Degree in Computer Science, Cergy, France** • Ecole Internationale des Sciences du traitement de l'information (EISTI)
CORE SKILLS	**Knowledge of ML development tools:** • PyTorch, Keras/Tensorflow, Scikit-Learn, Python (Pandas, Numpy, OpenCV…), Jupyter, R, Matlab **Theoretical background:** • Deep learning, **S**ynthetic **A**perture **R**adar Imagery (Polarimetry, Coherent Signal processing), Statistics, Probabilities, Linear Algebra, Calculus **Languages:** • French (Mother tongue), English (Fluent, Toeic: 980/990), Spanish (Read, Spoken), Russian (basis)
UNIVERSITY PROJECTS	**Master Thesis (2020): Deep Multimodal Similarity Learning for duplicate product detection** • Developing of custom multimodal siamese neural networks with multiple cost functions (Contrastive, Triplet…) • Analysis of sampling strategies for performance and representativity improvement. **Research Project (2019): Training an Artificial Neural Nets using Particle Swarm Optimisation** • Benchmarked the training process against a homemade backpropagation algorithm to train Artificial Neural Networks developed fully with Numpy. Fine-tuned PSO parameters (particles number, neighbourhood…)
PROFESSIONAL EXPERIENCES	**Deep Learning Intern, E.Fundamentals, Edinburgh, Scotland (May – August 2020)** • Analysis, in the context of the **Master Thesis** redaction, of the potential of Deep Multimodal Siamese Network to detect similarities between multimodal data samples. **Deep Learning Intern, Thales AVS, Osny (95) (April – September 2019)** • Training of a **Mask R-CNN** network to detect and segment buildings in satellite imagery • Study of pre-processing (**Data Augmentation**) and post-processing (**Logistic Regression**, **SVM**) **Engineering Intern, ATOS Worldline, Bezons (95) (June – September 2018)** • Provided Worldline's client with a three-tiers application for an e-money back-end • Front-End **Angular**, Middle **Spring Boot**, Back-Office as a **REST Web Service** (Java + COBOL).
PERSONAL PROJECTS	**Towards Data Science Author** • *Time Series Land Cover Challenge: A Deep Learning Perspective **|** An introduction to Deep Similarity Learning for sequences **|** How to choose your loss when designing a Siamese Neural Network? Contrastive, Triplet or Quadruplet?* **Semantic segmentation of Lunar Landscape Imagery** • Training of 4 segmentation models (**UNet**, **LinkNet**, **PSPNet**, **FPN**) to perform **semantic segmentation of Artificial Lunar Imagery** by detecting rocks, the ground and the sky.
ACHIEVEMENTS	**Medium Article: 3** Deep Learning Articles published in "*Towards Data Science*" **Kaggle Competitions:** Multiple competition participations as well as involvement in the forum **GitHub:** Development of Open Source projects to widen access to knowledge **Reading:** Deep Learning (*Aaron COURVILLE, Ian GOODFELLOW and Yoshua BENGIO*)

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