

Emmanuel Jehanno

PhD candidate at Inria Thoth

Professional experience

- Aug 2022 – Present **Inria (Thoth team), Grenoble, France, Deep Learning – Graphs**
- **PhD candidate.**
Graph Representation Learning for Materials Science
 - **Research Engineer, 14 months.**
Graph Neural Networks for physical property prediction of molecules (2D) and materials (3D) from public benchmarks. Framework: PyTorch Geometric.
Supervision: Pr J. Mairal
- Jun 2020 – May 2022 **Imagia Cybernetics, Montréal, Canada, Deep Learning - Medical Imaging**
- **Applied Research Scientist, 17 months.**
Literature Review, exploration on public medical datasets, applying on hospitals private dataset, deployment CI/CD. Research project management, managing interns. Framework: Tensorflow.
 - Methods: Representation Learning, Differential Privacy, Attention models, Statistics
 - Modalities: 2D and 3D imaging, video, gigapixel histopathology images
 - Tasks: cancer classification, treatment response, survival, biomarkers
 - Main interest: reproducibility, stability, robustness, generalization
 - **Junior Applied Research Scientist, 7 months.**
Self-Supervised Learning for 3D Lung CT Scans (300 images). Framework: PyTorch.
Manager: L. Di Jorio, PhD
- Feb 2019 – Jul 2019 **Imagia Cybernetics, Montréal, Canada, Deep Learning - Medical Imaging**
- Applied Research Intern.**
Main project: Neural Architecture Search / Side projects: Federated Learning and interactive tool for Weak Localisation. Different sanitized public datasets. Framework: Tensorflow.
Supervision : L. Di Jorio, PhD

Studies

- Oct 2023 – Sep 2026 **Inria, Université Grenoble Alpes, PhD Student, Applied Mathematics**
Graph Representation Learning for Materials Science.
Supervisors: Pr J. Mairal and S. Grudinin
- Sep 2016 – Dec 2020 **École Centrale Paris, Msc, Applied Mathematics - Data Science,**
- Advanced Machine Learning, Deep Learning and Advanced Deep Learning
 - Statistics, Optimization and Advanced Optimization
 - Geometric Methods in Data Analysis, NLP, RL, Visual Computing
 - Academic Project (Inria CVN, MILA): Insect classification on a private real dataset composed of 100k labelled / 50k unlabeled images. Median distribution: less than 20 images per class. Methods: Semi-Supervised Learning, Hierarchical Learning, Weak Localisation.
Supervision : Pr H. Talbot
- Sep 2014 – Jul 2016 **Lycée Châteaubriand, CPGE, Rennes, Physics and Chemistry**

Languages spoken and computing skills

English Fluent *Toefl Certification*

Computing skills Python, Scikit-learn, Keras, PyTorch, Tensorflow, Docker, Kubernetes, Git, \LaTeX

Hobbies

Algorithmics Google Hash Code 2022 – Code Jam 2018, 2021.

Sport Triathlon, hiking, sliding sports

Research Papers

- 2023 **Transactions on Machine Learning Research**. Menegaux, R., Jehanno, E., Selosse, M., and Mairal, J. “Self-Attention in Colors: Another Take on Encoding Graph Structure in Transformers”
- 2020 **AAAI Fall Symposium on AI for Social Good**. Kantor, C. A., Rauby, B., Boussioux, L., Jehanno, E., and Talbot, H. “Asymptotic cross-entropy weighting and guided-loss in supervised hierarchical setting using deep attention network”