



# Hugo Thimonier, PhD

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 📖 Google Scholar    🔗 arXiv

## About Me

I am a ML Research Scientist at Emobot, working on **Machine Learning (ML) for Audio and Text**. I hold a PhD in Computer Science from CentraleSupélec focused on **deep learning for tabular data**, in particular **anomaly detection** and **self-supervised learning**. Prior to my PhD, I worked as a deep learning scientist intern at L'Oreal R&I where I focused on ML for video.

## Education

<b>Ph.D</b>	<b>CentraleSupélec, LISN</b> , Computer Science	2020 - 2024
	<ul style="list-style-type: none"> <li>• <b>Title:</b> Advancing Anomaly Detection in Tabular Data: A Case-Study on Credit Card Fraud Identification.</li> <li>• <b>Supervisors:</b> Bich-Liên Doan, Fabrice Popineau, Arpad Rimmel.</li> <li>• <b>Jury:</b> Louise Travé-Massuyès, Alain Celisse, Marius Kloft, Gaël Varoquaux and Alamir Mazen.</li> </ul>	
<b>M.Eng</b>	<b>ENSAE</b> , <i>Statistics, Probabilities and Computer Science</i>	2018 - 2020
<b>M.Sc</b>	<b>ENS Paris-Saclay</b> , <i>Normalien Fonctionnaire-Stagiaire</i>	2015 - 2020
<b>DU</b>	<b>Paris 1 - Panthéon Sorbonne</b> , Russian Language	2020 - 2022

## Experience

<b>Emobot</b> 🏠, AI Research Scientist	Paris, Fr
<ul style="list-style-type: none"> <li>• Multimodal <b>LLM fine-tuning</b>.</li> <li>• Emotional state monitoring via smartphone usage.</li> </ul>	2024 - now
<b>CentraleSupélec, LISN</b> , PhD Candidate	Paris, Fr
<ul style="list-style-type: none"> <li>• Topics: <i>Anomaly Detection, Self-Supervised Learning, Deep-Learning for Tabular Data</i>.</li> <li>• Proposed <b>three novel anomaly detection</b> methods for tabular data: improved my <b>project management</b> capabilities.</li> <li>• Supervised a research project of a 1st-year PhD Student: improved my <b>management skills</b>.</li> <li>• Coded from scratch deep learning models in PyTorch for <b>multi-node training</b>.</li> </ul>	2020 - 2024
<b>CentraleSupélec</b> , Teacher in the Computer Science Department	Paris, Fr
<ul style="list-style-type: none"> <li>• <b>Course:</b> <i>Python</i> (24h/year), <i>Artificial Intelligence</i> (20h/year).</li> <li>• <b>Topics Covered:</b> <i>OOP, Algorithmic, Data types, Machine Learning, Search Problems (e.g. Adversarial Search Problems, Local Search Problems), Markov Decision Process, Reinforcement Learning, Logic</i>.</li> </ul>	2020 - 2024
<b>L'Oreal Research &amp; Innovation</b> , Deep Learning Scientist Intern	Paris, Fr
<ul style="list-style-type: none"> <li>• Developed a <b>novel post-processing model to enforce temporal consistency in videos</b> (Paper: <a href="#">here</a> 📄).</li> </ul>	2019 (6 months)

## Skills & Interests

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**Research Interest:** Self-Supervised Learning, Anomaly Detection, Tabular Data, DL for Audio.

**Reviewing:** ICLR, ECML-PKDD.

**Languages:** French (native), English (fluent), Spanish (B1), Russian (A2).

**Coding:** Python, LaTeX, SLURM, Gitlab/GitHub, UNIX, Aws.

**ML Toolkit:** PyTorch, PyTorch-Lightning, Transformers, Scikit-learn, Pandas, Numpy, W&B.

**Sport:** Tennis, Running (**STRAVA**), Fly Fishing, Chess (♟).

**Volunteering:** Mathematics teacher at Institut Villebon Georges Charpak (2019-2020).

## Publications

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### Preprints

- [1] **Hugo Thimonier**, Antony Perzo, and Renaud Segulier. *EmoSLLM: Parameter-Efficient Adaptation of LLMs for Speech Emotion Recognition*. 2025. arXiv: 2508.14130 [eess.AS] [🔗](#). URL: <https://arxiv.org/abs/2508.14130>.

### Conference Proceedings

- [2] **Hugo Thimonier** et al. “T-JEPA: Augmentation-Free Self-Supervised Learning for Tabular Data”. In: *The Thirteenth International Conference on Learning Representations*. 2025. URL: <https://openreview.net/forum?id=gx3LMRB15C>.
- [3] **Hugo Thimonier** et al. “Beyond Individual Input for Deep Anomaly Detection on Tabular Data”. In: *Proceedings of the 41st International Conference on Machine Learning*. 21–27 Jul 2024. URL: <https://proceedings.mlr.press/v235/thimonier24a.html>.
- [4] **Hugo Thimonier** et al. “Comparative Evaluation of Anomaly Detection Methods for Fraud Detection in Online Credit Card Payments”. In: *Proceedings of Ninth International Congress on Information and Communication Technology*. Singapore: Springer Nature Singapore, 2024, pp. 37–50. ISBN: 978-981-97-4581-4.
- [5] **Hugo Thimonier** et al. “Retrieval Augmented Deep Anomaly Detection for Tabular Data”. In: *Proceedings of the 33rd ACM International Conference on Information and Knowledge Management (CIKM '24)*, Boise, ID, USA. 2024. DOI: <https://doi.org/10.1145/3627673.3679559> [🔗](#).
- [6] **Hugo Thimonier** et al. “TraInAD: Measuring Influence for Anomaly Detection”. In: *2022 International Joint Conference on Neural Networks (IJCNN)*. 2022, pp. 1–6. DOI: [10.1109/IJCNN55064.2022.9892058](https://doi.org/10.1109/IJCNN55064.2022.9892058) [🔗](#).
- [7] **Hugo Thimonier** et al. “Learning Long Term Style Preserving Blind Video Temporal Consistency”. In: *2021 IEEE International Conference on Multimedia and Expo (ICME)*. 2021, pp. 1–6. DOI: [10.1109/ICME51207.2021.9428445](https://doi.org/10.1109/ICME51207.2021.9428445) [🔗](#).

## References

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Available on Request.