

Victor Letzelter

PhD Student in Machine Learning, Paris, France

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EDUCATION

PhD in Machine Learning at Telecom Paris (Palaiseau, France)	2023 – Present
PhD research on data uncertainty prediction with deep neural networks, resulting in publications with open-sourced repositories and weights.	
MRes Mathematics, Vision, and Learning (MVA) at ENS Paris-Saclay	2021 – 2022
Deep learning in theory and practice, optimization and probabilistic methods, with applications to computer vision, graph, and time-series processing. GPA: 83% with highest honors.	
MSc in Applied Maths (Eng. Degree) at Mines de Saint-Étienne (Saint-Étienne, France)	2019 – 2022
Specialization in applied mathematics; machine learning foundations, probability theory, statistics, and quantum physics. Graduated with a GPA of 87%.	
Bachelor in Mathematics at Université Jean-Monnet (Saint-Étienne, France)	2020 – 2021
Alongside Mines de Saint-Étienne; measure theory, differential calculus, topology. GPA: 79%.	
Preparation classes at Lycée Fabert (Metz, France)	2017 – 2019
Field MPSI-MP* – Intensive courses in Maths, Physics, and Computer Science to prepare for competitive exams. Admitted to Mines de Saint-Etienne (“Mines-Ponts” competitive exams).	

WORK EXPERIENCE

PhD Student at Valeo.ai (Paris, France)	2023 – Present
Research on <i>multiple choice learning</i> from ambiguous signals: “winner-takes-all” training and applications; language modeling, audio/image captioning, perception, and time-series forecasting. Supervisors: G.Richard, A.Bursuc, M.Fontaine, S.Essid, and P.Pérez.	
Research Scientist at Valeo.ai (Paris, France)	Dec. 2022 – Mar. 2023
Research position before the start of the PhD. Supervisor: Patrick Pérez.	
Research Intern at Neural Concept (Lausanne, Switzerland)	Apr. 2022 – Sept. 2022
Neural Concept leverages geometric deep learning for physics. Research topic: Multi-task Learning on geometric neural networks. Supervisor: Jonathan Donier.	
Research Intern at the National Laboratory of Fusion (Madrid, Spain)	June 2021 – Aug. 2021
Developed a probabilistic model for time-series data generation.	

SELECTED PUBLICATIONS *Equal contribution. [Scholar](#)

- V. Letzelter***, H. Malard*, M. Fontaine, G. Richard, S. Essid, A. Bursuc, and P. Pérez. “Multiple Choice Learning of Low Rank Adapters for Language Modeling”. In: *arXiv* (2025). [[Paper](#)] [[Code](#)].
- A. Cortes*, R. Rehm, and **V. Letzelter***. “Winner-Takes-All for Multivariate Probabilistic Time Series Forecasting”. In: **ICML**. [[Paper](#)] [[Code](#)]. 2025.
- D. Perera*, **V. Letzelter***, T. Mariotte, A. Cortés, M. Chen, S. Essid, and G. Richard. “Annealed Multiple Choice Learning: Overcoming limitations of Winner-takes-all with annealing”. In: **NeurIPS**. [[Paper](#)] [[Code](#)]. 2024.
- V. Letzelter***, D. Perera*, C. Rommel, M. Fontaine, S. Essid, G. Richard, and P. Pérez. “Winner-takes-all learners are geometry-aware conditional density estimators”. In: **ICML**. [[Paper](#)] [[Code](#)]. 2024.
- V. Letzelter**, M. Fontaine, M. Chen, P. Pérez, S. Essid, and G. Richard. “Resilient Multiple Choice Learning: A learned scoring scheme with application to audio scene analysis”. In: **NeurIPS**. [[Paper](#)] [[Code](#)]. 2023.

SKILLS

French: Native language. **Tools:** Python, Git, LaTeX (proficient); Shell, Slurm, R (basic).
English: Proficient. **Libraries:** Torch, HF, NumPy, SciPy, Pandas, Hydra, MLflow, etc.

OTHER

Service. Reviewer: ICML24, NeurIPS25, ICLR26. Teaching: Gaussian Processes and DL (IPP).

Invited talks. NeurIPS in Paris, UPF Barcelona, Flatiron Institute, Charles University in Prague.

Sports. Running (official races), trekking, cycling, swimming, skiing, tennis, ping-pong.

Interests. Financial markets, mentoring in maths, physics, and CS (> 1k hrs), music, chess, astrophysics.

FULL PUBLICATION LIST **Equal contribution*

- [1] **V. Letzelter***, H. Malard*, M. Fontaine, G. Richard, S. Essid, A. Bursuc, and P. Pérez. “Multiple Choice Learning of Low Rank Adapters for Language Modeling”. In: *arXiv preprint arXiv:2507.10419* (2025).
- [2] A. Cortes*, R. Rehm, and **V. Letzelter***. “Winner-Takes-All for Multivariate Probabilistic Time Series Forecasting”. In: **ICML**. 2025.
- [3] Y. Xu*, **V. Letzelter***, M. Chen, É. Zablocki, and M. Cord. “Annealed Winner-Takes-All for Motion Forecasting”. In: **ICRA**. 2025.
- [4] D. Perera*, **V. Letzelter***, T. Mariotte, A. Cortés, M. Chen, S. Essid, and G. Richard. “Annealed Multiple Choice Learning: Overcoming limitations of Winner-takes-all with annealing”. In: **NeurIPS**. 2024.
- [5] C. Rommel, **V. Letzelter**, N. Samet, R. Marlet, M. Cord, P. Pérez, and E. Valle. “ManiPose: Manifold-Constrained Multi-Hypothesis 3D Human Pose Estimation”. In: **NeurIPS**. 2024.
- [6] **V. Letzelter***, D. Perera*, C. Rommel, M. Fontaine, S. Essid, G. Richard, and P. Pérez. “Winner-takes-all learners are geometry-aware conditional density estimators”. In: **ICML**. 2024.
- [7] **V. Letzelter**, M. Fontaine, M. Chen, P. Pérez, S. Essid, and G. Richard. “Resilient Multiple Choice Learning: A learned scoring scheme with application to audio scene analysis”. In: **NeurIPS**. 2023.