

Victor Letzelter

PhD Student in Machine Learning, Paris, France

✉ letzelter.victor@hotmail.fr | 🌐 [@Victorletzelter](https://github.com/Victorletzelter) | 🌐 victorletzelter.github.io | 📞 +33 6 42 07 42 83

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-Etienne, 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: <i>arXiv</i> (2025). [Paper] [Code]. | |
| A. Cortes*, R. Rehm, and V. Letzelter* . “Winner-Takes-All for Multivariate Probabilistic Time Series Forecasting”. In: <i>ICML</i> . [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: <i>NeurIPS</i> . [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: <i>ICML</i> . [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: <i>NeurIPS</i> . [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.