

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

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- PhD in Machine Learning** at **Telecom Paris** (Palaiseau, France) 2023 – Present
The PhD research on data uncertainty quantification with deep neural networks has resulted in publications [1, 2, 3, 4] and open-sourced repositories.
- MRes Mathematics, Vision, and Learning (MVA)** at **ENS Paris-Saclay** 2021 – 2022
Specialized in deep learning, computational statistics and convex optimization, applied to computer vision, graphs and time series processing. GPA: 83% with highest honors.
- MSc in Data Science** at **Mines de Saint-Étienne** (Saint-Étienne, France) 2019 – 2022
Covered advanced topics in probabilities, statistics, machine learning, 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* – Intensives courses in Maths, Physics, and Computer Science to prepare for competitive exams. Admitted at Mines de Saint-Etienne (‘Mines-Ponts’ Competitive Exams).

WORK EXPERIENCE

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- PhD Student** at **Valeo.ai** (Paris, France) 2023 – Present
Focus on *multi-hypotheses* models for uncertainty quantification applied to audio processing and machine vision. Supervised by G. Richard, M. Fontaine, and M. Chen.
- Research Scientist** at **Valeo.ai** (Paris, France) Dec. 2022 – Mar. 2023
Research position before the start of a 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
Development of a probabilistic model for data generation. Design of a Deep learning algorithm for event detection in time series of electrostatic potential.

PUBLICATIONS *Equal contribution

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- [1] 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.
 - [2] 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.
 - [3] **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.
 - [4] **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.

SKILLS

French: Native language.

English: Proficient.

German: Beginner.

LaTeX, Python, R: Professional.

Matlab, Shell: Intermediate.

C, Java: Beginner.

INTERESTS

Sports. Running, Trekking, Road and mountain biking, Swimming, Skiing, Table tennis.

Music and association. Piano (10 years). Musical production (FL Studio 20) and animation (DJ).

Other. Chess, Market Finance.