# Victor Letzelter

PhD Student in Machine Learning, Paris, France

letzelter.victor@hotmail.fr | @Victorletzelter | victorletzelter.github.io | +33.6.42.07.42.83

## Education

**PhD in Machine Learning** at **Telecom Paris** (Palaiseau, France) 2023 - Present
The PhD research on deep learning and random modeling applied to machine perception has resulted in publications [1, 2, 3] and open-sourced repositories.

**MRes Mathematics, Vision, and Learning (MVA)** at **ENS Paris-Saclay** 2021 - 2022
Specialized in deep and reinforcement learning, computational statistics, convex optimization, computer vision, 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
Completed alongside my second year at Mines de Saint-Étienne; measure theory, complex analysis, differential calculus, topology, and numerical analysis. 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.

## Work Experience

**PhD Student** at **Valeo.ai** (Paris, France) 2023 - Present
Focus on *multi-hypotheses* models for uncertainty quantification applied to spatial audio 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
NC is a start-up that leverages Geometric Deep Learning for physics. Research topic: Multi-task Learning on geometric neural networks. Supervisor: Jonathan Donier.

**Research Intern** at the Laboratory of Fusion of Spain (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

[1] 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.

[2] 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.

[3] 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: *arXiv:2312.06386*. 2023.

## Skills

**French**: C2 level (native language)
**English**: B2-C1 level (TOEIC 885/990)
**German**: B1 level

**LaTeX**, **Python** and **R**: Professional competence
**Matlab** and **Shell**: Intermediate level
**C** and **Java**: Beginner level.

## Interests

**Sports.** Running, Road and mountain biking, Swimming, Skiing, Table tennis.
**Music and association.** Piano (10 years). Musical production (FL Studio 20) and animation (DJ).
**Trips.** French Guyana, England, Spain, Belgium, The US, Canada, Italy, Switzerland.