Pierre Joly

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pierre-joly-fr Pierre-Joly

Graduate of École Centrale de Lyon (Sept 2025) with deep learning research experience and a strong background in mathematics, seeking a PhD position in theoretical machine learning.

Education

École Centrale Lyon *Sept 21 – Sept 25*

Integrated Master of Science – French "Grande École" Engineering Program Lyon, France

Relevant Coursework:

- Mathematics: Stochastic Differential Equations, Bayesian Statistics, Functional Analysis (PDEs), Optimization, Sparsity & High-Dimensional Data.
- Machine Learning: Data Science, Probabilistic Numerical Methods, Quantum Information.

Lycée Déodat de Séverac *Sept 19 – Jul 21*

Intensive preparation for competitive exams to join top French engineering schools - "CPGE" Toulouse, France

Relevant Coursework:

- Mathematics: Matrix Theory, Algebraic Structures, Functional Analysis (Pre-Hilbert Spaces, Normed-Space Topology), Convex Analysis, Series & Integral Calculus, Differential Equations.

Lycée Général Lapérouse *Sept 16 – Jul 19*

Major in Science, Graduated with Highest Honors Albi, France

Experiences

CISPA Helmholtz Center for Information Security *Apr 25 – Sept 25*

Research Internship - Concept Removal in Image AutoRegressive Models Saarbrücken, Germany

Research internship at the SprintML Lab (Secure, Private, Robust, INterpretable and Trustworthy Machine Learning), supervised by Dr. Boenisch and Dr. Dziedzic.

- Investigated and prototyped novel methods to control and remove targeted semantic concepts in autoregressive image models.

CEA *May 23 – Oct 23*

Research Internship – Robustness and Uncertainty in Object Detection Paris-Saclay, France

Research internship at the AIC Chair (Artificial Intelligence and Complexity) at CEA List, supervised by Dr. Tamaazousti.

- Researched and developed two novel methods for certifiable robustness and uncertainty quantification in object detection tasks, utilizing YOLOv3 and YOLOv8 algorithms.
- Co-authored two patents, including EP4575900, and a second one accepted and awaiting publication.

Patents

Method for determining an uncertainty interval associated with a regression prediction, patent no. EP4575900.

Determination of a robust prediction and a certification interval for a regression task., accepted patent - awaiting publication.

Certifications

Deep Learning Specialization *Nov 23 – Jan 24*

DeepLearning.AI five-course specialization

Fundamentals of Reinforcement Learning *Dec 23 – Jan 24*

University of Alberta first course in the Reinforcement Learning Specialization

Technical Skills and Interests

Languages: French (Native), English (TOEFL ITP: 607/677), Spanish (Beginner), Chinese (Beginner).

Programming Languages: Python, C++, Swift, Bash, SQL.

Programming Libraries: PyTorch, TensorFlow, JAX, NumPy, Matplotlib, Pandas, Scikit-Learn, Keras.

Tools and Technologies: Slurm HPC scheduler, LaTeX, Git.

Volunteer: IT Manager for Challenge Centrale Lyon; Treasurer of Centrale Lyon Inter-School Relations Student Association; First Aid and Civic Rescue Training (PSC1).