Pierre Joly

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Pierre-Joly

Aspiring Machine Learning Researcher with a strong mathematical foundation.

Education

École Centrale Lyon *09/21 – 09/25*
Integrated Master of Science – French "Grande École" Engineering Program Lyon, France
Relevant Coursework:

- **Mathematics and Statistics:** Stochastic Differential Equations, Bayesian Statistics, Functional Analysis (PDEs), Convex Optimization, Sparsity and High-Dimensional Data.
- **Machine Learning:** Data Science, Probabilistic Numerical Methods, Quantum Information.
- **Computer Science:** Python, C++, Object-Oriented Programming, Multithreading, Software Engineering.

Lycée Déodat de Séverac *09/19 – 07/21*
Classes préparatoires aux grandes écoles (PCSI – PSI)* Toulouse, France

- Intensive preparation in mathematics and physics for national engineering entrance exams (Centrale, Mines, Polytechnique).

Lycée Général Lapérouse *09/16 – 07/19*
Major in Science, Graduated with Highest Honors Albi, France

Experiences

CISPA Helmholtz Center for Information Security *04/25 – 09/25*
Research Internship Saarbrücken, Germany
Research internship at the SprintML Lab (Secure, Private, Robust, INterpretable and Trustworthy Machine Learning) in CISPA.

CEA *05/23 - 10/23*
Research Internship – Robustness and Uncertainty in Object Detection Paris-Saclay, France
Research internship at the AIC Chair (Artificial Intelligence and Complexity) in CEA List.

- Researched and developed two novel methods for certifiable robustness and uncertainty quantification in object detection tasks, utilizing YOLOv3 and YOLOv8 algorithms.
- Engineered and fine-tuned deep learning models using PyTorch, orchestrated large-scale training and validation processes on Slurm-managed HPC clusters, and automated workflows with Bash scripting.
- Co-authored a pending patent for innovative machine learning methodologies.

Certifications

Deep Learning Specialization *11/23 - 01/24*
DeepLearning.AI five-course long specialization

- Specialized in neural network design and deep learning applications with TensorFlow, focusing on hyperparameter optimization, CNNs for vision tasks, sequence models for NLP, and strategies for structuring machine learning projects.

Fundamentals of Reinforcement Learning *12/23 - 01/24*
University of Alberta first course of Reinforcement Learning Specialization

- Studied Markov Decision Processes, exploration methods, and value functions for optimal decision-making, applying dynamic programming for efficient industrial control problem-solving.

Technical Skills and Interests

Languages: French (Native), English (TOEFL ITP - Score: 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).