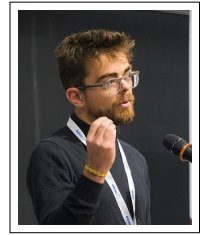


THÉO GUYARD

Machine Learning & Operations Research Scientist

🌐 Website **in** LinkedIn  Github  Scholar

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QC H2L 1H4, Canada
theo.guyard.job@gmail.com
(+1) 263-881-6734
French, 27 years old
Fluent in French/English
Eligible for IEC work permit



Applied mathematician working at the intersection of **machine learning** and **operations research**, with a focus on providing guarantees for models in high-stakes applications. Experience in running research projects end to end with external partners and producing production-grade open-source software.

Experience

- 2025 - now **Postdoctoral researcher** – SCALE-AI Chair with Thibaut Vidal, Polytechnique Montréal, Canada.
Large-scale planning algorithms in collaboration with NASA for debris-removal missions.
▪ IVADO Digital Futures award (1st prize, 2025)
▪ IVADO research grant (80,000 \$CAD)
Exact methods for combinatorial optimization problems based on decision trees.
▪ Research grant from FMJH (5,000 €)
Robust compression methods for tree-based machine learning models.
- 2021 - 2024 **Doctoral researcher** – INRIA Rennes, France.
Interpretable machine learning models via combinatorial optimization methods.
▪ ROADEF (2023) and SMAI (2022) best student paper awards
▪ Ph.D. excellence grant from Fondation Groupe INSA (130,000 €)
- 2019 - 2021 **Research intern** – CentraleSupélec and INRIA Rennes, France.
Bi-level matching and resource allocation for the European kidney exchange program.
Vehicle routing and fleet scheduling for groomer tour optimization.

Education

- 2021 - 2024 **Ph.D. in applied mathematics** – INRIA Rennes, France.
2018 - 2021 **M.Sc. in applied mathematics** – INSA Rennes, France.
2016 - 2018 **B.Sc. in engineering** – INSA Rennes, France.

Skills

Technical skills

- Machine Learning Linear models ▪ Decision tree models ▪ Decision-focused learning ▪ Feature selection ▪ Kernel methods ▪ Nearest neighbor search ▪ Statistical learning theory ▪ AI-assisted research ▪ Model validation and backtesting ▪ Inverse problems.
- Operations Research Mixed-integer, linear and conic programming ▪ Routing and scheduling ▪ Metaheuristics ▪ Column generation and Benders decomposition ▪ Formulation strengthening ▪ Graph and matching problems ▪ Polyhedral theory.

Practical skills

- Programming Python ▪ C ▪ C++ ▪ Julia ▪ Rust ▪ R ▪ SQL ▪ Matlab.
- Frameworks NumPy ▪ SciPy ▪ Scikit-learn ▪ Pandas ▪ Gurobi ▪ CPLEX ▪ OR-Tools ▪ CvxPy ▪ JuMP.
- Technologies Linux ▪ Git ▪ CI/CD ▪ HPC (Slurm) ▪ LLM-assisted development ▪ LaTeX.

Scientific outputs

- Contributions First author on top conference papers (ICML, ICASSP, EUSIPCO, ...).
- Presentations 30+ talks at research conferences (ICML, SIAM Optimization, IFORS, ...).
- Software e10ps, mcrdv, treeco, exprun, libsvmdata.