

DOMINIQUE LOYER

PhD Candidate in AI (Cognitive Informatics) | AI Researcher

Montréal, Québec, Canada

+1 (873) 200-1201 | loyer.dominique@uqam.ca

[GitHub: DominiqueLoyer](https://github.com/DominiqueLoyer) | [ORCID: 0009-0003-9713-7109](https://orcid.org/0009-0003-9713-7109)

ISBN Prefixes: 978-1-0699945, 978-1-0699904

Professional Summary

Doctoral researcher in AI (cognitive informatics) specializing in explainable AI (xAI), neuro-symbolic systems, and information credibility verification. Published researcher with 13+ peer-reviewed works addressing algorithmic governance, transparency, and accountability. Research combines ontological frameworks with machine learning for interpretable AI systems. Active open-source contributor with software on GitHub and Zenodo.

Education

PhD in AI (Cognitive Informatics)

Université du Québec à Montréal (UQAM)

2024–2026

Montréal, QC

Dissertation defense: April 3, 2026 | **Status:** Examen de Synthèse Doctoral completed

Dissertation: Hybrid System for Information Credibility Evaluation using Neuro-Symbolic AI

Affiliation: Institut des Sciences Cognitives (ISC)

Master of Artificial Intelligence

Laval University

2014–2016

Québec, QC

Master of Business Administration (MBA)

Laval University

2014–2015

Québec, QC

Bachelor of Finance

HEC Montréal

2001–2004

Montréal, QC

Other Training

Google Advanced Data Analytics Professional Certificate

Coursera, Online

2023

6 months

Google Data Analytics Professional Certificate

Coursera, Online

2023

6 months

Deep Learning Summer School Camp

Mila, Montréal

2019

Intensive training

Professional Experience

AI Consultant

Sherbrooke Informatique Inc.

2013–Present

Montréal, QC

- 13 years consulting in AI, data analytics, and machine learning
- Python: Pandas, NumPy, SciPy, Matplotlib, Seaborn, Scikit-Learn, PyTorch, TensorFlow, Keras
- Additional: R, SQL, Bash, PowerShell, JavaScript, C, SAS; Tableau, Power BI; Spark, Hadoop

Research Interests & Expertise

- Algorithmic Systems & Governance: Power, opacity, accountability in AI systems
- Explainable AI (xAI): Interpretability and transparency
- Neuro-Symbolic AI: Hybrid systems combining logic with neural networks
- Information Credibility: Fact-checking and misinformation detection

- AI Ethics & Accountability: Responsible AI frameworks

Publications & Research Outputs

PhD Synthesis Examination (2025)

Le Léviathan Algorithmique: pouvoir, opacité et responsabilité

The Algorithmic Leviathan: Power, Opacity, and Responsibility in the Age of AI

ISBN: 978-1-0699904-7-1 | DOI: 10.13140/RG.2.2.28011.20002

Research Articles (2025–2026)

Twelve Lessons in Machine Learning: A Survey of Complex Problem Modeling

Based on Domingos’s “A Few Useful Things to Know About Machine Learning”

ISBN: 978-1-0699945-7-8 | DOI: 10.13140/RG.2.2.27189.54244

Journal article (unpublished), January 2026

Hybrid System for Information Credibility Verification

ISBN: 978-1-0699945-0-9 | DOI: 10.13140/rg.2.2.36348.24961

Information Verification Ontology

ISBN: 978-1-0699945-1-6 | DOI: 10.13140/RG.2.2.22926.47680

TREC Information Retrieval Evaluation

ISBN: 978-1-0699904-8-8 | DOI: 10.13140/RG.2.2.22608.62721

Survey: Yoav Shoham’s Knowledge Representation

ISBN: 978-1-0699904-6-4 | DOI: 10.13140/RG.2.2.13627.24800

Neural Machine Translation (English-Russian)

ISBN: 978-1-0699904-9-5 | DOI: 10.13140/RG.2.2.17980.55687

Query Expansion on TREC AP 88-90

ISBN: 978-1-0699904-5-7 | DOI: 10.13140/RG.2.2.13481.57120

Research Software & Open Source

- **FactCheckingSys** – github.com/DominiqueLoyer/FactCheckingSys
- **sysCRED** – github.com/DominiqueLoyer/sysCRED
- **TREC Framework** – Zenodo DOI: 10.5281/zenodo.17943817
- **ISC Platform** – plateforme-isc.uqam.ca (Full-stack development)

Technical Skills

- **Programming:** Python, R, Bash, LaTeX, SQL, JavaScript, C, SAS
- **AI & ML:** Neural Networks, NLP, Neuro-Symbolic AI, Ontologies
- **Tools:** Git, GitHub, Tableau, Power BI, Spark, Hadoop

Academic & Institutional Involvement

Institut des Sciences Cognitives (ISC)

Université du Québec à Montréal (UQAM)

2024–Present
Montréal, QC

- Full-stack developer: ISC platform
- ISC Information Systems Collective (ISC-2025) member

Scholarly Networks

2022–Present

- **ORCID:** 0009-0003-9713-7109

- **GitHub:** github.com/DominiqueLoyer
- ResearchGate, Google Scholar

Languages

- **French:** Native proficiency
- **English:** Professional working proficiency

Last updated: January 25, 2026 | ORCID: 0009-0003-9713-7109 | dominiqueloyer.github.io