Jasmine Latendresse

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Summary

- PhD candidate in Software Engineering with 5+ years of experience in empirical software engineering, AI-based systems, and data-driven analysis.
- Lead author of peer-reviewed papers at MSR, ASE, ICSE, and ICSE-Companion on software maintenance, dependency management, and AI-assisted development.
- Strong experience designing, implementing, and evaluating ML/LLM-based systems from data mining and modeling to prototyping and deployment.

Research Interests

Empirical software engineering; software ecosystems & dependency management; AI-assisted development; software engineering for AI.

Education

Concordia University, Montréal, QC — PhD, Software Engineering (fast-track), 2021–present (expected April 2026)
GPA: 4.25/4.30

Concordia University, Montréal, QC — MSc, Software Engineering, 2020–2021 (fast-tracked to PhD)
GPA: 4.23/4.30

Concordia University, Montréal, QC — BEng, Software Engineering, 2015–2020
GPA: 3.29/4.30

Peer-reviewed Publications

Conference proceedings

Jasmine Latendresse, SayedHassan Khatoonabadi, Emad Shihab. “The Software Librarian: Python Package Insights for Copilot.” In *Proceedings of the IEEE/ACM 47th International*

Conference on Software Engineering: Companion Proceedings (ICSE-Companion 2025), April 2025.

Thomas Le Tourneau, Jasmine Latendresse, Ahmad Abdellatif, Emad Shihab. "Code Mapper: Mapping the Global Contributions of OSS." In *Proceedings of the 46th International Conference on Software Engineering (ICSE 2024)*, April 2024.

Jasmine Latendresse, Suhaib Mujahid, Diego Elias Costa, Emad Shihab. "Not All Dependencies are Equal: An Empirical Study on Production Dependencies in NPM." In *Proceedings of the 37th International Conference on Automated Software Engineering (ASE 2022)*, October 2022.

Jasmine Latendresse, Rabe Abdalkareem, Diego Elias Costa, Emad Shihab. "How Effective is Continuous Integration in Indicating Single-statement Bugs?" In *Proceedings of the 18th International Conference on Mining Software Repositories (MSR 2021)*, May 2021.

Journal manuscripts

Jasmine Latendresse, Samuel Abedu, Ahmad Abdellatif, Emad Shihab. "An Exploratory Study on Machine Learning Model Management." *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 2023.

Research & Professional Experience

AI Researcher, National Bank of Canada (NBC), Montréal, QC — April 2025–present

- Designed an AI-driven approach to improve change-request risk assessment in IT service management.
- Built and evaluated ML and LLM models to classify risk levels and generate explanations for decision-makers.
- Analyzed large-scale change and incident datasets to identify actionable risk signals and guide feature engineering.
- Contributed to the design of a prototype decision-support system for early risk detection.

AI Scientist, Ministère de la Cybersécurité et du Numérique (MCN), Gouvernement du Québec, Montréal, QC — 2023–2025

- Led a team of AI engineers to design, deploy, and evaluate a large language model–based writing assistant for government employees.
- Hosted and optimized open-source LLMs locally (e.g., llama.cpp) to meet privacy and security constraints.
- Conducted extensive benchmarking and reliability testing to select and optimize the final model for French and English use cases.

Research Assistant, Data-driven Analysis of Software (DAS) Lab, Concordia University, Montréal, QC — May 2020–present

- Conducted empirical studies on CI effectiveness, dependency management, ML model management, and AI-based software systems.
- Mined and analyzed large-scale software repositories (e.g., GitHub, npm) using Python and statistical methods.
- Mentored undergraduate and graduate students on research methods, tooling, and empirical study design.

Teaching Experience

Teaching Assistant, Engineering AI-based Software Systems, Department of Computer Science & Software Engineering, Concordia University — 2023-2025

- Led tutorials on ML/LLM-based system design, evaluation, and deployment.
- Supported graduate students with project design, implementation, and empirical evaluation.

Academic Service

Junior Program Committee Member, International Conference on Mining Software Repositories (MSR), Research Track — 2023, 2024, 2025

- Reviewed submitted research papers and provided detailed, constructive feedback.
- Participated in online discussions and recommendations on paper acceptance decisions.

Reviewer, ACM Transactions on Software Engineering and Methodology (TOSEM) — 2025

Awards & Honours

- Graduate Students' Association (GSA) Conference Funding, Concordia University, 2023.
- Concordia Golden Key Scholarship, Golden Key International Honour Society, 2022.
- Concordia University Conference and Exposition Award, Concordia University, 2022.
- Concordia University Retired Faculty and Staff Graduate Award, Concordia University, 2021.
  Doctoral Fellowship, Concordia University, 2021.
- Merit Scholarship, Concordia University, 2021.
- Instructional Technology Award, Concordia University, 2020.

Technical Skills

Programming & Data: Python, pandas, NumPy, scikit-learn, Jupyter, matplotlib, seaborn.

ML/AI & LLMs: Machine learning, natural language processing, LLM-based system development and testing, prompt engineering, data analysis, AI model training and optimization, llama.cpp, big data workflows. DevOps & Tooling: Git, GitHub, Docker, Travis CI, GitHub Actions, AWS, Kubeflow, VS Code, Torch.

Languages

French (native) • English (full professional)