

Guillaume Genois

438 378-4120
guillaumegenois031@gmail.com
guillaume.genois.ca
770, 53e Avenue
Lachine (Québec) H8T 2Z4

Language skills

English
French

EDUCATION

Master's Degree in Computer Science 2025 - 2027

Specialization: Machine Learning

Mila - Quebec Artificial Intelligence Institute, Montréal

Bachelor's Degree in Mathematics and Computer Science 2022 - 2025

Specialization: Data Science

Université de Montréal, Montréal

PROFESSIONAL EXPERIENCE

Cloud and AI Web Solutions Advisor Jun. 2025 - Present

Voyages en direct, Montréal

- Deployed 80+ websites leveraging Azure cloud infrastructure including Front Door, CDN, and Application Gateway services, with Kubernetes containerization and WordPress Multisite CMS.
- Conducted proof-of-concept development and technical analysis for social media API integrations, identifying system bugs and coordinating resolution with external development partners.
- Led technical review and assessment of AI-powered virtual assistant project, evaluating chatbot capabilities for client interaction, personalized offer generation, and seamless agent handoff functionality.
- Enhanced team productivity by implementing streamlined workflows using Jira and Confluence, while establishing comprehensive QA processes for bug tracking and resolution.

Data Engineering Advisor May 2024 - Apr. 2025

Desjardins, Montréal

- Developed a parser in Python to extract used fields and their sources from SQL and SAS queries to automate impact analyses and data traceability.
- Contributed to the development of a multidimensional model in Continuous Integration/Continuous Deployment (CI/CD) with Azure DevOps and SQL Server.
- Gained experience working in Agile mode within a large organization, requiring rigorous development, effective team communication, and continuous documentation.

System Pilot May 2023 - Apr. 2024

Office québécois de la langue française, Montréal

- Extracted and analyzed data using SQL programming to produce accountability reports and respond to internal and media requests.
- Independently handled recurring and special development mandates.
- Quickly learned new software, including Microsoft Access, Microsoft Power BI, and internal tools.

TECHNICAL SKILLS

Languages: Python, Java, C, C++, C#, SQL, JavaScript, R, SAS, Bash, PHP

Tools: Git, Docker, Google Cloud Platform, Anaconda, Azure, DevOps, Kubernetes, WordPress

Libraries/Frameworks: Pandas, NumPy, Scikit-learn, TensorFlow, PyTorch, NLTK, Node.js

PROJECTS

Metadata Curation to Evaluate the Use of LLMs in SLRs Summer 2025

- Built automated application to extract scientific articles from 8 major academic databases.
- Built custom HTML parser to systematically extract metadata from research publications.
- Curated and structured metadata into 16 usable datasets comprising over 30,000 articles for LLM evaluation research on accelerating a systematic literature review (SLR) screening.

Data Augmentation for Cell Segmentation using GANs Winter 2025

- Developed augmentation strategies including smart cropping, GAN-based synthetic data generation, and modality-aware augmentations to address variability in multi-modality cell images.
- Implemented and integrated methods on a U-Net architecture to explore improvements in weakly supervised cell segmentation with limited labeled data.
- Established a foundation for further work by building a full training pipeline and running initial experiments (21 epochs), setting the stage for extended training and evaluation.

Machine Learning for the Best NHL Pool Fall 2024

- Extracted and preprocessed NHL player data using their API through a custom built pipeline.
- Predicted current season points using machine learning models.
- Built the best team using a Branch-and-Bound algorithm respecting pool constraints.

Automatic Detection of Incoming Cars in a Parking Lot Summer 2024

- Built a physical Arduino system with a radar sensor, SD card saving and radio transmission.
- Sent mobile notifications using Telegram when a car passed in front of the sensor.
- Deployed the operational system in a real environment at the Aux Volets Noirs vineyard.

Benchmarking NLP Model Performances Winter 2024

- Task: Identify paraphrases by analyzing the semantic similarity between two sentences.
- Experimented with various sentence encoding methods using the GLUE dataset corpus.
- Rigorously analyzed the performance of multiple models based on the encodings.

AWARDS AND DISTINCTIONS

Awarded but declined BRPC from RECI Fund - Equivalent to NSERC USRA	2024
Université de Montréal	6250 \$

DIRO Excellence Scholarship	2023
Université de Montréal	2500 \$

Excellence in Sciences Scholarship	2023
Ministère de l'Enseignement supérieur	1000 \$

SOCIAL INVOLVEMENT

Non-Profit Organization's Website Maintenance and Modernization	2023 - Present
Club des personnes handicapées du Lac St-Louis, Lachine	

Volunteer for Harvest and Other Activities	2015 - Present
Vignoble Aux Volets Noirs, Très-Saint-Sacrement	

Volunteer for Carlisopen Golf Tournament supporting Fondation En Coeur	2023 - 2024
Lac-St-Joseph Golf Club, Québec	

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