

# Guillaume Genois

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## EDUCATION

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<b>Master's Degree in Machine Learning</b> <i>Mila - Quebec Artificial Intelligence Institute</i>	<b>2025 – Present</b> <i>Montréal, QC</i>
<b>Bachelor's Degree in Mathematics and Computer Science</b> <i>Université de Montréal</i>	<b>2022 – 2025</b> <i>Montréal, QC</i>

Awarded excellence scholarships and research fundings

## PROFESSIONAL EXPERIENCE

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<b>Cloud and AI Web Solutions Advisor</b> <i>Travel Direct Group</i>	<b>Jun. 2025 – Present</b> <i>Montréal, QC</i>
❖ Deployed 80+ websites using Azure cloud infrastructure with Front Door, CDN, and App. Gateway	
❖ Assisted clients with DNS modifications, providing guidance and support for website deployments	
❖ Worked with Kubernetes containerization and WordPress Multisite CMS for scalable solutions	
❖ Identified system bugs and coordinated resolution with external partners for Meta API integrations	
❖ Led technical review of new AI-powered virtual assistant project for personalized offers	
❖ Enhanced team productivity through Jira and Confluence workflow implementation	
❖ Demonstrated flexibility, proactivity, and strategic insight to diverse tasks within a small-business	
<b>Data Engineering Advisor</b> <i>Desjardins</i>	<b>May 2024 – Apr. 2025</b> <i>Montréal, QC</i>
❖ Developed Python parser to extract field usage and sources from SQL and SAS queries	
❖ Automated impact analyses and data traceability processes for improved efficiency with the parser	
❖ Contributed to multidimensional model development using CI/CD practices	
❖ Implemented modernization solutions with Azure DevOps and SQL Server integration	
❖ Worked in Agile methodology within large organizational structure	
<b>System Pilot</b> <i>Québec Office of the French Language, Government of Québec</i>	<b>May 2023 – Apr. 2024</b> <i>Montréal, QC</i>
❖ Extracted and analyzed data using SQL programming for accountability reports	
❖ Responded to internal and media requests with data-driven insights	
❖ Coordination between internal clients and the IT team to resolve and validate system issues	
❖ Quickly learned Microsoft Access, Power BI, and internal organizational tools	
<b>Badminton Coach</b>   <i>Badminton Lachine Club, Lachine, QC</i>	<b>2020 – 2023</b>
<b>Kitchen Assistant</b>   <i>L'Oeufrier, Lachine, QC</i>	<b>2022</b>
<b>Clinic Assistant</b>   <i>Dorval Podiatric Clinic, Dorval, QC</i>	<b>2021</b>

## PROJECTS

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### RAG-Powered Cruise Booking Assistant | *LangChain, LangGraph, Groq, ChromaDB, Gradio*

- ❖ Built hybrid RAG system combining SQL database queries with vector similarity search
- ❖ Implemented React agent to orchestrate multi-tool workflows with conversation memory
- ❖ Deployed production web application with Gradio interface and nginx on [rag.guillaume.genois.ca](http://rag.guillaume.genois.ca)

### Metadata Curation to Evaluate the Use of LLMs in SLRs | *RPA, HTML Parsing, Dataset*

- ❖ Built automated application to extract over 30,000 scientific articles from 8 major academic databases
- ❖ Developed custom HTML parser to systematically extract metadata from research publications
- ❖ Designed 16 usable datasets for LLM evaluation research on systematic literature review acceleration

### Data Augmentation for Cell Segmentation using GANs | *PyTorch, Monai, U-Net, GAN*

- ❖ Developed GAN-based synthetic data generation strategies to address limited labeled data
- ❖ Integrated augmentation methods on U-Net architecture for weakly supervised cell segmentation
- ❖ Built complete training pipeline with initial 21-epoch experimental validation
- ❖ Established foundation for extended training and evaluation of segmentation improvements

## TECHNICAL SKILLS

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

**Tools:** MatLab, Git, Docker, Google Cloud, Anaconda, Azure, DevOps, Kubernetes, WordPress, PowerBI

**Libraries:** Pandas, NumPy, Jupyter Notebooks, Scikit-learn, TensorFlow, PyTorch, NLTK, Monai, Selenium

## OTHER INTERESTS

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<b>Competitive Badminton Player</b> <i>For Badminton Lachine Club and for fun</i>	<b>2012 - Present</b> <i>Lachine, QC</i>
<b>Volunteer for Harvest and Other Activities</b> <i>Vignoble Aux Volets Noirs</i>	<b>2015 - Present</b> <i>Très-Saint-Sacrement, QC</i>
<b>Non-Profit Organization's Website Maintenance and Modernization</b> <i>Club des personnes handicapées du Lac St-Louis</i>	<b>2023 - Present</b> <i>Lachine, QC</i>
<b>Volunteer for Carlisopen Golf Tournament supporting Fondation En Coeur</b> <i>Lac-St-Joseph Golf Club</i>	<b>2023 - 2024</b> <i>Québec, QC</i>

## REFERENCES

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Available upon request