

# RENEL LHERISSON

Full-Stack Software Developer · Data Engineer · CPI

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## PROFILE

Full-Stack Software Developer at Ville de Montréal, designing and maintaining applications for the IT Service of Canada's second-largest municipality. Bilingual full-stack developer with hands-on experience in data pipelines, machine learning, federated systems, and DevOps, plus active teaching at Institut Teccart. CPI on track for OIQ Engineer (Eng.) certification.

## AREAS OF EXPERTISE

- › Full-stack web development
- › Containerization with Docker
- › Microservice architecture
- › Distributed system integration
- › Angular, React, Git, GitHub
- › Python, C / C++, C#, Java
- › TypeScript / JavaScript
- › Node, Express, NestJS
- › Machine Learning / AI
- › Data analysis
- › Automated testing
- › REST API, AWS, Heroku
- › Agile project management
- › Technical leadership
- › CI/CD & DevOps
- › MongoDB, MySQL, SQL

## PROFESSIONAL EXPERIENCE

**Software Developer** | Ville de Montréal May 2025 – Present

*Développeur-concepteur · Service des technologies de l'information*

- Design and maintain application components for the IT Service of Canada's second-largest municipality, authoring functional specifications and technical documentation alongside business analysts and project teams.
- Lead functional and non-functional test scenarios for vulnerability validation; triage production incidents and service interruptions, classify by impact and root cause, and apply corrective fixes to maintain availability and integrity.
- Build automated workflows and inter-system interfaces; advise on technology choices, system interoperability, and performance optimization across application components.

**Instructor** | Institut Teccart January 2025 – Present

*Application & Web Development program*

- Teach the foundations of front-end and back-end web development to three groups of 20 students using Angular, Node.js, Express, and FastAPI.
- Design three practical assignments, a culminating project, and hands-on activities for each cohort to evaluate comprehension, creativity, and problem-solving.
- Author a comprehensive study guide covering each topic in detail, plus a certification exam covering all course material.

**Software Developer** | Ericsson August – December 2024

- Designed and implemented a dashboard to cut energy usage by 20% during the training of Federated Machine Learning models, using Python, Angular, Express, and an MQTT broker.
- Built Docker containers for four integrated, secure application modules to guarantee reliable data flow and inter-service communication.
- Implemented automated tests achieving 95% code coverage to validate program reliability and surface vulnerabilities.

**Research Intern** | Ville de Montréal May – September 2023

*Service de l'Eau · Direction des réseaux d'eau*

- Conducted statistical analysis of the City of Montréal's potable-water consumption data to identify correlations and select the most relevant explanatory variables for downstream modeling.
- Built consumption models from historical data, classifying consumer profiles and segmenting subscribers by ICI usage category (industrial, commercial, institutional) and geographic location.
- Analyzed residential, ICI, and regulation-zone consumption alongside pipe-break records to surface determinants of potable-water demand for the Water Networks Division.

## EDUCATION

**Bachelor of Engineering, Software Engineering** | École Polytechnique de Montréal December 2024

**Master of Science, Yield Optimization (Agriculture & Plant-Soil)** | Université Laval 2017

**Bachelor of Science, Agricultural Engineering** | Université d'État d'Haïti 2009 – 2014