

# Edmond La Chance, Ph.D

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*Experienced Software Developer and Data Engineer with a Ph.D. in Software Verification & Cluster Computing. Skilled in distributed systems, big data processing, and full-stack development. Passionate about solving complex problems and driving innovation in data-intensive applications.*

## Work History

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- **Data Engineer at Yoppworks (contract for Bell Canada)**

*January 2022 – February 2025*

- Led data pipeline migration from on-premise Hadoop (Cloudera) to Google Cloud Platform for Bell Canada, processing terabytes of telecom data daily.
- Created a testable and cost effective data enrichment solution for Cloud Functions and Dataflow.
- Maintained and improved distributed data workflows using Apache Spark, Hive, Impala, Oozie, and Hadoop.
- Optimized ETL and ingestion tasks with bash, Python, awk, and sed, significantly improving pipeline efficiency.
- Supported observability and debugging through automation and scripting across large-scale distributed jobs.
- Worked on internal demo "ProjectX" for Canada Post, a delivery notification service. Built a Scala backend (http4s, cats, doobie) deployed

on Kubernetes.

- Front-end work on the Dokn delivery app using React Native.
- **Software Engineer at Timesphere**  
*August 2021 – December 2021*
  - Full-Stack Engineer for Timesphere Application, used by SAQ (Société des alcools du Québec) for employee schedule management.
  - Developed new features and fixed bugs in the Java Spring Framework backend.
  - Ported existing features to the new React/Redux-toolkit frontend, improving user experience and application performance.
- **Lecturer, Université du Québec à Chicoutimi**  
*2015-2021*
  - Taught 8INF803 (Distributed Databases): Covered distributed databases, crawling, and distributed data processing.
  - Taught 8GIF128 (Web programming): Modern web development, WebSockets.

## Education

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- **Ph.D in Software Verification & Cluster Computing**  
*2013-2021*  
Université du Québec à Chicoutimi  
Thesis: Extended Combinatorial Testing using Graph Algorithms and Apache Spark
- **M.S**  
*2011-2013*  
Université du Québec à Chicoutimi  
Thesis: Algorithms for the minimum spanning tree problem
- **B.S**  
*2008-2011*

## Publications

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**Journal Article:** La Chance, Edmond, and Sylvain Hallé. "An investigation of distributed computing for combinatorial testing." *Software Testing, Verification and Reliability* 33, no. 4 (2023): e1842.

**Ph.D. Thesis:** La Chance, Edmond. "Extended combinatorial testing using graph algorithms and Apache Spark." Ph.D. dissertation, Université du Québec à Chicoutimi, 2021.

**Conference Paper:** Hallé, S., La Chance, E., Gaboury, S. "Graph Methods for Generating Test Cases with Universal and Existential Constraints." In *Testing Software and Systems. ICTSS 2015*. Lecture Notes in Computer Science, vol 9447. Springer, Cham, 2015.

## Projects

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- **TSPARK – A distributed combinatorial test generator**

Open-source project developed for Ph.D. thesis. Written in Scala and Apache Spark. Implements the novel graph-based test generation algorithms described in my thesis.

- **CTL Model Checker**

Implements the CTL labeling algorithm for model checkers in C++.

- **Cerberus Spells**

Website for [Cerberus RPG spells](#). Publishing system for D&D spells. Built using React, MUI, Node, pandoc, LaTeX.

- **Cerberus Bot**

Discord bot for D&D combat written in Javascript.

- **Morphopoetic.com**

Website that hosts hundred of essays of Michaël La Chance, generated using a custom static website generator.

- **ASM FORUM**

High School project. Discussion forum implemented in x86 assembly language, CGI processes, and SQLite.

## Skills

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### Programming Languages:

- Scala, Java, C/C++, Python, JavaScript, TypeScript, x86 assembly

### Frameworks and Libraries:

- Apache Spark, Spring Boot, React, Redux Toolkit, React Native, Socket.io

### Cloud and Big Data Technologies:

- Google Cloud, Databricks, BigQuery, Hadoop, Hive, Impala, Oozie

### Databases:

- SQL, SQLite, Postgres, MongoDB

### DevOps and Version Control:

- GitLab CI/CD, Docker, Git, GitHub

### Other Technologies:

- UNIX Shell Scripts, awk, sed, grep, HTML, CSS, LaTeX, Pandoc, JIRA, Slurm

# Certifications

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- **LightBend Certified Reactive Architect**

*Issued Jan 2022, Expires Jan 2025*