

# Yuecai Zhu

ML ENGINEER & DATA SCIENTIST

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*Experienced ML researcher and data engineer with strong academic and industry research background with multiple publications and pending patents, and strong skills in Spark, Scala, Python, SQL, Tensorflow, Pytorch, Big Data technologies and Software Engineering*

## Education

### Mcgill University

M.Sc. IN COMPUTER SCIENCE

Montreal, Canada

2017 - 2022

### Concordia University

B.S. IN COMPUTER SCIENCE

Montreal, Canada

2012 - 2017

### Southwest University of Political Science and Law

B.A(ECON) IN INTERNATIONAL COMMERCE AND ECONOMICS

Chongqing, China

2002 - 2006

## Experience

### Bell Mobility

DATA SCIENTIST & ML ENGINEER

Montreal, Canada

June 2018 - Present

- One of the main data engineers and data scientists for the AI Robocall Detection application to detect fraudulent callers, the first AI solution in Canada.
- Re-architect Bell's first production AI solution - A near-realtime SMS Spam Detection application. This work's major impact is removing a third-party AI application to reduce cost and offer a higher detection rate.
- Develop the first dynamic graph-based ML model for voice network anomaly detection.
- Initiate, architect and lead the development of a universal anomaly detection solution for data quality monitoring.
- Analyze different options for migrating the current data platform to the public clouds, including Databricks and Google Composer.
- Automate the Gitlab onboarding process for public cloud projects.
- Re-architect multiple Spark-based ETL data pipelines and automate their supporting workflows.

### Douglas Hospital Research Center

RESEARCH TECHNICIAN

Montreal, Canada

May 2017 - June 2018

- Statistic Analysis for various research projects.
- Published two papers as contributing authors.

### Concordia University

RESEARCH ASSISTANT

Montreal, Canada

May 2014 - May 2017

- Extract information from raw data files to the database.
- Data cleaning for further analysis.
- Mathematical Model building.
- Algorithm design.
- Design and perform different kinds of simulation on demand.
- Published two papers as the second author.

### Ericsson

TEST INTEGRATION ANALYST

Ottawa, Canada

May 2015 - Aug. 2015

- Extract information from raw test data and build up the database for the research project.
- Perform simulation to evaluate different regression testing strategies.
- Automate the process of synchronizing the research database with the application database.

## Hydro One Asset Strategy Department

IT ANALYST

- Analyze electricity equipment usage data.
- Develop Excel applications for internal use.
- Test the new algorithm of the new asset management system.

Toronto, Canada

Jan 2014 - May 2014

## Guangdong Development Bank Jiang Men Branch (Guangdong China)

OFFICER SPECIALIZED IN ENTERPRISE BUSINESS

- Analyze business data.
- Draft business documents and reports.
- Help develop marketing strategies.
- Successfully launch the International Transactions Online Declaration System as project manager.
- Completed a business research on 'loan with export credit insurance as a pledge.'

(Guangdong, China)

Jul. 2006 - Oct. 2009

## Publishment

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### Test Re-prioritization in Continuous Testing Environments

ICSME, 2018

FIRST AUTHOR

Sept 2018

Publication url: <https://ieeexplore.ieee.org/abstract/document/8530018>

### Encoder-Decoder Architecture for Supervised Dynamic Graph Learning: A Survey

Arxiv pre-print, 2022

FIRST AUTHOR

May 2022

Publication url: <https://doi.org/10.48550/arXiv.2203.10480>

### Organizational Volatility and Post-release Defects: A Replication Case Study Using Data from Google Chrome

MSR, 2015

SECOND AUTHOR

May 2015

Publication url: <http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=7180101>

### Quantifying and Mitigating Turnover-Induced Knowledge Loss: Case Studies of Chrome and a Project at Avaya

ICSE, 2016

SECOND AUTHOR

2016

Publication url: <https://ieeexplore.ieee.org/abstract/document/7886975>

### Systems and Methods for Use in Blocking of Robocall and Scam Call Phone Numbers: CA patent

Bell, Canada

THIRD AUTHOR

2021

Publication url: [https://www.ic.gc.ca/opic-cipo/cpd/eng/patent/3143760/summary.html?type=number\\_search&tabs1Index=tabs1\\_1](https://www.ic.gc.ca/opic-cipo/cpd/eng/patent/3143760/summary.html?type=number_search&tabs1Index=tabs1_1)

### Systems and Methods for Use in Blocking of Robocall and Scam Call Phone Numbers: US patent

Bell, Canada

THIRD AUTHOR

2021

Publication url: <https://patents.google.com/patent/US20220224790A1>

### DNA methylome variation in a perinatal nurse-visitation program that reduces child maltreatment: a 27-year follow-up

Translational psychiatry

CONTRIBUTED AUTHOR

2018

Publication url: <https://www.nature.com/articles/s41398-017-0063-9>

### PRS-on-Spark (PRSoS): a novel, efficient and flexible approach for generating polygenic risk scores

BMC bioinformatics

CONTRIBUTED AUTHOR

2018

Publication url: <https://bmcbioinformatics.biomedcentral.com/articles/10.1186/s12859-018-2289-9>

## Honors & Awards

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Jan. 2013	<b>Campaign for the New Millennium Student Contribution Bursary,</b>	<i>Montreal,Canada</i>
Oct. 2013	<b>Faculty of Arts and Science Scholar for 2012-2013,</b>	<i>Montreal,Canada</i>
Nov. 2013	<b>Faculty of Arts and Science Dean's List,</b>	<i>Montreal,Canada</i>
Jun. 2014	<b>Canada Undergraduate Student Research Award,</b>	<i>Montreal,Canada</i>
Jun. 2015	<b>Canada Undergraduate Student Research Award,</b>	<i>Montreal,Canada</i>
Sept. 2018	<b>IEEE TCSE Distinguished Paper Award,</b> ICSME 2018	<i>Madrid,Spain</i>
Jan. 2020	<b>Bell's Merit Gold Award,</b> contribution to the projet Universal Call Blocking	<i>Montreal,Canada</i>
May. 2020	<b>Bell's Merit Gold Award,</b> outstanding contribution towards the project RapidMiner replacement for SMS Spammer detection.	<i>Montreal,Canada</i>