

# Richard Ye

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<https://github.com/richardye101>

## SKILLS SUMMARY

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- Programming languages: **R, Python, JavaScript, SQL and C**
- Frameworks: **React, Node.js**
- Libraries: **Tidyverse, ggplot2, Plotly, NumPy, Pandas, Scikit-learn, Keras/TensorFlow**
- Developer Tools: **Git, VS Code, R Studio, MySQL, Jupyter Lab**

## EDUCATION

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- **University of Toronto** Toronto, ON
  - Honours Bachelor of Science (BSc) and Bachelor of Business Administration (BBA) *Sept 2018 – Apr 2023*
    - Double Degree: Specialist in Statistics and Specialist in Finance; **GPA: 3.73**
    - **Relevant Coursework:** Machine learning, Computer Science I & II, Data Structures & Algorithms, Advanced Data Analysis

## WORK EXPERIENCE

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- **IBM Canada** Markham, ON
  - Intern - Data Science *Jan 2022 - Current*
    - Researched image filters such as the Sobel and Prewitt operators to create a lab on **Convolutional Neural Networks (CNN's)** from scratch for the Deep Learning and Reinforcement Learning course by IBM on Coursera.
    - Understood principles and ideas used in **Continuous Integration/Continuous Delivery (CI/CD)** to create 7 videos diving into best practices and tools to build a CI/CD pipeline for a CI/CD course by IBM on Coursera.
    - Created hands-on interactive labs on **K-Nearest Neighbours (KNN)** and **linear classifiers** for a meet-up event I co-hosted as part of the largest data science meet-up group in Toronto attended by **80+ learners**.
    - Converted all labs from two popular courses on Coursera from using a hosted Jupyter Lab environment to Jupyter Lite, reducing our team hosting costs by **\$300,000**.
- **Scotiabank** Toronto, ON
  - Intern - IFRS9 Time Series Modelling *May 2021 - Aug 2021*
    - Took initiative by researching and subsequently proposing a technical modelling solution which received **positive feedback** and approval for **180 employee hours** in development.
    - Lead the creation of a proof of concept data pipeline feeding data into a **Vector Auto-Regression** model in **R** scripts to model the **expected credit loss (ECL)** calculation, delivering models that went to further development.
- **TD Bank Group** Toronto, ON
  - Co-op - Product Strategy *Jan 2020 - Apr 2020*
    - Took initiative in programming a custom **Excel Macros** for a cost-benefit analysis scoring framework reducing manual efforts by **150+ employee hours**.
    - Invented a triaging system on Confluence using the ConfiForms plugin to ingest client needs in real-time and handle automation of JIRA ticket creation using **Jira's REST** software API as a JSON file in under **3 weeks**.

## RESEARCH PROJECTS

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- Research on Bilingual Students and Online Learning Engagement *May 2021 - Current*
  - Utilized **statistical tests/techniques (t-tests, ANOVA, OLS)** to evaluate hypotheses of language and STEM learning, and created advanced graphs to display results on a custom website.
  - Created a private R Bookdown report to host code, tests, graphs and explanations.
- NLP Applications in Finance *Jan 2022 - Apr 2022*
  - **Analysis website**
    - Applied NLP techniques such as word-embeddings (**TF-IDF**) and topic-modelling (**LDA, LSA**) in python to extract latent topics in Financial Business Descriptions.
    - Created a Jupyter Book report displaying the code implementation of the algorithms, **plotly graphs** visualizing our results, and textual explanations of our results.