

# Dan Li

<https://github.com/danmxli>

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## SKILLS

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**Languages:** Python, Typescript, Javascript, C/C++, SQL, Java, Bash

**Tools, Databases, Platforms:** Git, MongoDB, PostgreSQL, Docker, AWS

**Libraries and Frameworks:** React, Redux, NumPy, Flask, Django, FastAPI, PyTorch, Next.js

## WORK EXPERIENCE

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- **Onlia Insurance** Toronto, ON  
*Automation Developer* May 2023 - Aug 2023
  - **Initiative:** Led the development of a regression testing tool using Selenium with Java, and TestNG.
  - **Optimization:** Leveraged Java interfaces to define default implementations for Page Object Models, resulting in a 38% increase in regression test coverage.
  - **Reporting:** Refined Selenium WebDriver exception handling capabilities, resulting in a 15% reduction in the occurrence of incorrect pass-fail reporting instances.
  - **Business-logic Testing:** Configured and executed a back-end project to perform integration tests for policy binding and account activation services.
  - **Data Retrieval:** Developed a SOAP web service to retrieve data for policy binding and activation; utilized the JDBC API with PostgreSQL for program-to-database communication.
  - **File Writing:** Configured Excel writing capabilities with Apache POI to generate spreadsheets of activated accounts for automated testing usage, resulting in a 23% increase in QA resources.

## PROJECTS

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- **Instagram Marketing and Content Growth Service** | *Typescript, Python, Supabase*
  - Worked in a 2-man team to build a SaaS for content creators to boost their digital presence; developed an Instagram hashtag recommendation API with Django REST framework.
  - Defined table-specific data access controls with PostgreSQL policies.
  - Implemented Redux to create a centralized store and optimize state mapping to hierarchical components.
  - Refined user onboarding flows by integrating email as an authentication provider; leveraged cookies to store access tokens.
- **Agent-integrated Interview Preparation Tool** | *Typescript, Python, MongoDB*
  - Developed an agent capable of interview simulation and resume evaluation with Cohere and OpenAI's LLMs.
  - Used React to build a client interface for agent to user interaction; refined component definition with Typescript interfaces.
  - Leveraged MongoDB vector database to store company and resume data as query and document embeddings, allowing for vector similarity computations to ground the LLM on contexts per user.
- **Productivity Visualization Tool - Hackfest November 2023** | *Typescript, Python, MongoDB*
  - Architected the UI, REST API, and schema models to build and deploy a cloud-based planning tool with Cohere's LLMs. Won the "Best Use of MongoDB Atlas" and "Best Use of Auth0" awards.
  - Designed MongoDB aggregation pipelines to optimize CRUD operations, achieving over 8.5x faster performance than manual iteration into document data.
  - Leveraged the React Flow library to display sequential data as an interactive node-based flowchart.
  - Developed authentication-required routes with a "redirect" functionality to safeguard sensitive data.
- **Adjusted Cost Base Stock Reporting Application** | *C++*
  - Developed a investment-tracking CLI application that computes the adjusted cost base from a history of financial transactions.
  - Parsed text file input into a linked list data structure; implemented the insertion sort algorithm in C++ to sort each node by trade date.
  - Refined application memory management by developing safe pointer deletion strategies.

## EDUCATION

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- **University of Waterloo** Waterloo, ON  
*Candidate for Computer Engineering Honours, Co-operative Program* Sept 2022 - Apr 2028