

JESSICA CAO

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SKILLS

LANGUAGES

C/C++ • PHP • Python • JavaScript • SQL • R • Java • Bash • ASM (ARM, MIPS)

FRAMEWORKS AND TOOLS

Laravel • MySQL • Redis • AWS • Azure Databricks • MongoDB • Pyspark • React.js • jQuery • Docker • Git

EXPERIENCE

SOFTWARE ENGINEERING INTERN | MANULIFE FINANCIAL

January 2021 - April 2021 | Remote (Waterloo, ON)

- Designed and implemented data transformation scripts on **large-scale client datasets (average of 3 million rows)** using Azure Databricks, SQL, and Python pandas on user data to facilitate efficient data storage and accurate access
- Created unit tests to ensure correctness of transformation logic and **achieve 80% test coverage**
- Communicated with data analysts and project managers to understand, define, and implement business requirements
- Automated and **streamlined the Transformation and Loading portions of the company ETL process** using Jenkins pipelines to achieve continuous integration

FULL-STACK DEVELOPER | CONDOS.CA

January 2020 - April 2020 | Toronto, ON

- Built full-stack Gmail-compatible customer relationship management tool using jQuery and asynchronous JavaScript, enabling customer interaction tracking and reducing the time taken to spot high-potential clients for 150+ agents
- Implemented authenticated API requests service with Laravel and Redis, which **presented actionable key API data to company stakeholders** through a dashboard and **detects scraping behaviour** to protect company websites from malicious bot activity
- Developed and improved web modules and RESTful APIs to **reduce services runtimes by up to 85%** and to introduce internal- and client-facing features using Laravel (PHP), MySQL, and MongoDB in a Docker environment
- Redesigned database schema to improve large volume data query performance, **reducing query response time by 40%** and resulting in faster website response times for over 5 million views per month

JUNIOR QUALITY ASSURANCE ANALYST | NEWTOPIA INC.

May 2019 - August 2019 | Toronto, ON

- Developed automated test scripts in Java and refactored the company's mobile and web automation projects to build with Maven and to **achieve continuous integration** with Bitbucket and CircleCI
- Configured the security permissions of Salesforce objects to **facilitate security testing and continuous delivery**

PROJECTS

MOOD DETECTION | PYTHON, TENSORFLOW, OPENCV, FLASK

- Architected a web app with Flask that determines the user's mood through a device camera
- Identified faces in any image using OpenCV's Haar Feature-based Cascade Classifiers and processed them for a machine learning model that classifies emotions

COPTIMISM | PYTHON, PYGAME, TKINTER

- Built a chess engine that supports up to two players with a simple AI implemented using the minimax tree search algorithm
- Implemented GUI icons for check, checkmate, mode selection, and backtracking a move using Python's tkinter package

EDUCATION

UNIVERSITY OF WATERLOO | BACHELOR OF MATH, COMPUTER SCIENCE AND STATISTICS

Expected Graduation April 2023 | Waterloo, ON, Canada

Relevant Courses: Operating Systems (C), Algorithms (C++), Data Structures and Data Management (C++), Compilers (C++/MIPS), Sampling and Experimental Design, Applied Probability/Stochastic Processes, Computational Statistics and Data Analysis (R)