

# James Spears - Software Developer

## CONTACT INFO

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## Links

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## INTRO

### About Me

I enjoy working with software. I see myself fitting into the right organization as a software engineer or developer who spends their time iterating on the existing design and implementation of highly impactful software products. As my career progresses I would hope to play a larger role in the initial design and architecture of new and exciting products that push the boundaries of what was previously thought "possible".

My goal is to one day be owner/lead of a software product that is meaningful to users and that makes a positive impact on their day-to-day lives.

## EDUCATION

University of Waterloo, Waterloo, ON  
Bachelor of Science, General Science,  
commencement Fall 2018

Durham College, Oshawa, ON  
Advanced Diploma, Electromechanical Engineering Technologist,  
commencement Fall 2011

## EXPERIENCE

### BMO Financial Group

BMO Financial Group is a highly diversified financial services provider offering a broad range of personal and commercial banking, wealth management and investment banking products and services to 12 million customers through three operating groups.

UI Developer - [BMO Financial Group \(OLBB\)](#), January 2022 - Present  
Toronto, ON

- Member of the Online Banking for Business team.
- Develop and maintain Angular front end applications. Work with TypeScript, JavaScript and Node.js on a daily basis.
- Code refactoring and Angular unit testing using Karma, and Jasmine.
- Implement user stories in an agile environment using tools such as Jira, Bitbucket, and Confluence.

## WebsiteBox

WebsiteBox is a late stage startup offering website hosting and WYSIWYG website design to members of the real estate industry. Agents and brokers can have a good looking website that is also fully integrated with their MLS, up and running in minutes on WebsiteBox's PaaS.

Node.js Developer - [WebsiteBox](#), Toronto, ON February 2021 - December 2021

- Developed and maintained Angular & AngularJS front end applications and supporting express microservices. Worked with TypeScript, JavaScript and Node.js on a daily basis. Implementing features in an agile environment using Jira, Bitbucket, and Confluence. Modifying the JS tool chain (Babel, Gulp, Webpack) and CI/CD (Bitbucket, Docker) pipeline when required.
- Worked extensively with the Stripe API and contributed to the migration from a legacy billing platform. Required a near even split of frontend and backend tasks. Code refactoring and unit testing using a combination of modern frameworks (Mocha, Chai.js, Jest).
- Experience working with Elasticsearch for full text search of unstructured data, Apache Cassandra for storage of semi-structured data, and MySQL (MariaDB) for structured data. Achieved an understanding of the purpose of each of these data stores and where that technology may be utilized in a single application.

## FliteX

FliteX is an early stage startup aiming to be a major disruptor of the airline business. Using modern web technologies and data freely available through federal initiatives they are developing commercial flight route optimization that fits the SaaS model.

Full Stack Developer - [FliteX](#), Oshawa, ON March 2020 - June 2020

- Experienced the atmosphere at an early stage startup. Exposure to contract and freelance work under intense time pressure and constraints. Garage mentality, prototyping, and iteration on a tight schedule.
- Prototyped a map based SPA used for flight route optimization. Designed a 3-tier web application consisting of an Angular frontend web application, Python API, and PostgreSQL data layer.
- Ported MATLAB to Python (numpy, scipy). Assisted team members in translating purely mathematical equations from recently published academic research into Python code.

## Wysdom AI

Wysdom AI is a late stage startup and artificial intelligence company offering virtual assistant software via a SaaS platform. The Wysdom AI chatbot product was initially designed to service the needs of large telecoms. As a result they were able to sign a number of big name clients in this space and have since been expanding their product's capabilities.

AI Automation Specialist - [Wysdom AI](#), Richmond Hill, ON June 2019 - March 2020

- Hired as AI Application Specialist, promoted to AI Automation Specialist. Initially excelling at the scripting/testing aspect of Application Specialist, was moved to Automation Specialist where tasks were exclusively related to programming (Python).
- Developed web based business process automation tools and applications. Designed a 3-tier web application consisting of an Angular frontend

web application, Python API, and PostgreSQL data layer. This application implemented an asynchronous task queue (Celery) to take user input in the form of CSV files and execute testing of that data outside the regular request/response cycle. When the task was complete the user would receive an email with the results of their test run.

- Contributed to the development of a prototype data pipeline which used audio filters (FFmpeg) to manipulate mp3 formatted data. The data was encoded and sent to a third party (Google STT API) for transcription. Finally the transcribed data was classified using the in-house chat bot product, proving the concept of re-purposing the text engine for conversational IVR.

## SKILLS

- |              |              |             |
|--------------|--------------|-------------|
| • HTML       | • connect    | • Cassandra |
| • CSS        | • express    | • MongoDB   |
| • JavaScript | • Python     | • AWS       |
| • TypeScript | • Go         | • GCP       |
| • Node.js    | • Rust       | • Git       |
| • Angular 2+ | • MySQL      | • Agile     |
| • AngularJS  | • PostgreSQL | • CI/CD     |

## CERTIFICATIONS

- OpenJS Node.js Application Developer, *JSNAD*, Awarded June 2021, Expires June 2024, [Verify](#)
- AWS Certified Solutions Architect (Associate), *SAA-C02* Awarded November 2020, Expires November 2023 [Verify](#)
- AWS Certified Cloud Practitioner, *CLF-C01*, Awarded September 2020, Expires September 2023 [Verify](#)
- Certified Associate in Python Programming, *PCAP-31-02*, Awarded September 2020 [Verify](#)

## PROJECTS

### Web App

Map Application - (see <https://tripsultant.com>) - This work is an excellent example of a web application designed using a microservice architecture, containerization and a reactive frontend framework. This application is deployed in the cloud via an automated CI/CD pipeline using GitHub Actions. The frontend utilizes Angular 12 and Redux for state management. Microservices are implemented in Golang and JavaScript.

### CLI Tool

RandCSV - A simple Python command line utility that can be used to generate random CSV files. As an additional feature, values are generated using Python's built-in cryptographically strong random number generator. This work serves as an example of a well documented Python CLI utility, use of Object Oriented Programming, and Python's open source ecosystem. See it on [GitHub](#). See it on [PyPI](#). See it on [Read the Docs](#).

## Data & AI

Text Classifier - Personal Python project for easily creating text classification models. This work is an excellent example of transfer learning using [TensorFlow](#), where [Google's BERT](#) is fine tuned to produce high quality NLP models. If available, a system GPU will be utilized to decrease training execution time. See it on [GitHub](#).

## LEADERSHIP

- [Waterloop](#) - Team Leader Magnetic Wheel. Managed the team responsible for the design of the magnetic wheel component. Competed in the SpaceX [Hyperloop Pod Competition](#) 2017.
- [OELC](#) Participant - Selected to attend Ontario Educational Leadership Camp.

## PUBLICATIONS

- [Approaching special relativity in complex time](#), Can. J. Phys., **95(10)** (2017) 923-926., Mathematical/theoretical physics, logic, set theory, and algebra

## AWARDS

- [Pascal Mathematics Contest](#), School champion, 25<sup>th</sup> percentile.