# Sean D'Souza

Software Engineer

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## Education

**Bachelor of Applied Science (BASc) in Software Engineering** — University of Ottawa *Ottawa, Ontario* *Sep. 2019 - Dec. 2023*

- *Relevant Coursework:* Computing (Python, Java), Software Engineering, Digital Systems, Technical Report Writing, Calculus, Linear Algebra

## Work Experience

**Full Stack Developer** — CC&SD Co. *Kingston, Ontario (remote)* *Nov. 2019 - Present*

- Designed and developed an ecommerce platform from the ground up in React and Node.js
- Implemented PayPal Express Checkout, inventory management and shopping cart using an Express.js REST API
- Adapted client's requirements into a simple user/UX flow and minimalistic design by creating UI mockups in Figma and Adobe XD
- Deployed Kubernetes pods consisting of MongoDB, NGINX (frontend) and Node.js (backend) Docker containers on a DigitalOcean droplet
- Leveraged knowledge in: JavaScript (ES10), HTML, CSS, React, Redux, Node.js + Express.js, MongoDB, NGINX, Docker, Kubernetes

**Junior Software Developer, Intern** — CENX Inc. *Ottawa, Ontario* *Jul. 2018 - Aug. 2018*

- Extended a CLI program written in Python that summarizes gigabytes of FunkLoad test data from XML logs by improving runtime by 200% using the ElementTree XML API and calculating more test statistics
- Created a graphing program in Python and AWK that visualizes daily system logs (SAR) using NumPy and Pandas
- Refactored, fixed and restored an HTTP and WebSockets integration test that proved the existence of unresponsive endpoints in the product
- Containerized applications with Docker for compatability in different environments
- Leveraged knowledge in: Python, AWK, NumPy, Pandas, HTTP, WebSockets, XML, Apache Solr, Linux, Docker, Agile

## Projects

**vscout** *Dec. 2019 - Present*

- Developing scouting software for the VEX Robotics Competition (VRC) that allows scouts to collect and analyze quantitative info about robots
- Composing design documents detailing architecture, components, screens and actions
- Establishing continuous integration (CI) to ensure high code quality and faster releases
- Assigning stories to other developer, while verifying design and setting feature decisions with deadlines
- Utilizing: TypeScript (ES10), React Native, Redux, Realm

**BoardTeX** — Hack the North *Sep. 2019*

- Produced the UI for an application in React JS with Redux and Material UI that uses the Google Vision and Mathpix API for optical character recognition (OCR) to convert images of math and computer science notes into LaTeX, a language for typesetting technical documents
- Utilized: Python, JavaScript (ES10), HTML, CSS, React, Redux, Google Vision API, MathPix API, Flask

**Autosurance** — Hack the 6ix *Aug. 2019*

- Built an application that speeds up the auto insurance claim process by identifying if a collision has occurred when given an image, and estimating the refund of a client based on their account details
- Uploaded image files to an S3 Bucket with the boto3 library in Python from a Flask REST API route
- Utilized: Python, JavaScript (ES10), HTML, CSS, Flask, AWS S3, AWS Sagemaker, React, Redux

**Team 2381C Robot** — VEX Robotics Competition (VRC) *Nov. 2018 - Feb. 2019*

- Engineered an autonomous program using motion profiling and PID feedback control and driver control in C++, Python and the PROS library
- Won Excellence, Innovate, and Service Awards; and Tournament Champions at various regional competitions

## Additional Information

- Software: (proficient): Python, JavaScript (JS ES10), React, Git (familiar): Agile, Ruby, C++, Dart, Unix (learning): Rails, Java, Haskell
- Mentor and software advisor for high school VEX robotics organization consisting of 7 teams
- Lead Executive of Coding Club in high school
- acn-bot, patrickbot – Discord library in Python; Arch Linux
- Currently architecting level 5 autonomous race car that uses ROS
- References are available upon request