Zain Khan

software developer

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contact info

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18 Redstone Commons, Calgary, AB

professional summary

A multidisciplinary software engineer capable of applying hardware/software solutions to automate or optimize data processes and flows. I have multiple years of experience creating and managing interactable applications backed by efficient algorithms, including ML, and building scalable databases all while understanding foundational mechatronics system design.

I am currently seeking an opportunity that allows me to utilize my knowledge and skills to mutually benefit by fulfilling the needs required, while continuously learning to reinvest my upskill into my work.

work experience

April 2024 - Present
Calgary, AB

Smart Tech Deals | *Software Developer*

- Responsible for salespoint-related tasks utilizing Python Selenium to automate publishing on Facebook Marketplace, integrating with Shopify's API, and syncing inventory information to a single ReactJS-based web application for ease of use.
- Advising on inventory purchases while tracking logistics and profits, evaluating sales potential against seasonality and market trends with regards to consumer technologies.
- Website management duties; including publishing promotional graphics, optimizing site for SEO, custom HTML code additions, and prioritizing design and user flow to maximize customer sales conversion
- Subject matter expert on inventory to effectively advise customers on purchases and readily answer questions encouraging customer retention and rapport

August 2021 - June 2023
Toronto, ON

Heliolytics | *Frontend Developer*

- Led development of an internal React based web tool, from working alongside users in defining requirements to launching the app into production, decreasing turnaround time of image data collection to generating client reports and effectively allowing for a higher capacity of clients
- Full-stack responsibilities include managing a GraphQL database, writing Python scripts, implementing/testing (PyTest) internal API endpoints, utilizing ML algorithms, handling authorization tokens and other tasks as required.
- Worked closely with Product Manager as a developer for various SAAS POC's regarding solar site management, including testing with satellite imagery, effectively assessing potential new competitive ideas against available technical requirements and resources.
- Advised and managed database schema changes to adopt a new data model based on GraphQL and write efficiently optimized SQL queries and mutations as required.
- Played an active role in the creation of a formal scrum team, defining processes between product, design and QA to ensure information is shared universally and consistently across teams. Responsible for detailing and documenting all software design decisions.

May 2020 - August 2020
Calgary, AB
University of Calgary | *Developer*

- Primary developer as part of a multidisciplinary team to assist in transitioning teaching resources online for the Chemical Engineering Department at the University of Calgary, during COVID-19.
- Utilized JavaScript, HTML and CSS to create interactive web pages consisting of educational content and calculators for students to use and a database to keep track of individual progress.

September 2017 - September 2018
London, ON
Ruffalo Noel Levitz | *Student Caller*

- Contacted Western University alums to update the online database, build rapport and request donations to the various campus related funds and scholarships, helping to meet required quotas.

projects

ReactJS, Python
thumbs

- A web application allowing users to track 'stories' in the form of movies and games, while allowing ratings on a binary system. Utilizing the collected data to further predict and suggest new content.
- Based in ReactJS with Material UI components and a supporting FastAPI – Python backend to serve endpoints for managing computationally heavy and secure processes such as authorization and database security.

Java
LocalNeighborhoodCNN

- A locally implemented convolutional neural network, developed to understand the CNN architecture and how such a network operates to classify images efficiently. Trained and tested on the MNIST database.
- Programmed in Java from the ground up, including implementations for matrix operations, backpropagation calculus as well as the convolutional, max pool, and fully connected neural network layers.

Python
PyCOVID

- A script written to automatically collect COVID and environmental data to perform various ML analysis and predict trends of cases as well as possible influencing factors.
- Written in Python utilizing Selenium to automate web scraping publicly accessible data and sklearn to perform machine learning data analysis on the data collected.

C++, MATLAB
MSE DESIGN PROJECT

- Mechatronics design project focused on designing a fully autonomous robot to perform a series of coordinated tasks incorporating aspects of electrical, mechanical and software design principles
- Utilized an onboard Arduino microcontroller programmed with C++. Troubleshooting the multidisciplinary aspects of the design, with the use of tools such as an oscilloscope, multimeter, and Matlab's Simulink to model transducers.