ZAIN KHAN

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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 creatively utilize my skills to mutually benefit by fulfilling the needs required while allowing me to continuously learn and reinvest my upskill into my work.

TECHNICAL STACK

FRONTEND | React JS/TS, HTML, CSS
BACKEND | Python, Java, Node JS, Selenium
ML | TensorFlow, Keras, PyTorch, Numpy, Pandas, Pillow
EMBEDDED | C/C++, MATLAB/Simulink
DATABASE | SQL, GraphQL, PostgreSQL, MongoDB
OTHER | Unix, Git, Kubernetes, Docker

WORK EXPERIENCE

SMART TECH DEALS | DEVELOPER, SALES ASSOCIATE | CALGARY, AB | *April 2024 – Present*

- 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.

HELIOLYTICS | FRONTEND DEVELOPER | TORONTO, ON | *August 2021 – June 2023*

- 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.

UNIVERSITY OF CALGARY | DEVELOPER | CALGARY, AB | *May – August 2020*
- 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.

RUFFALO NOEL LEVITZ | STUDENT CALLER | LONDON, ON | *Sept 2017 – Sept 2018*
- 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.

PROECTS

THUMBS | 🛠 ReactJS, Python
- 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.

LOCALNEIGHBORHOODCNN | 🛠 Java
- 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.

PYCOVID | 🛠 Python
- 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.

MSE DESIGN PROJECT | 🛠 C++, MATLAB
- 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.

EDUCATION

WESTERN UNIVERSITY | LONDON, ON | *Sept 2016 – April 2021*
Dual Degree in Computer Science (*BSc*) and Mechatronics Systems Engineering (*BESc*)

CERTIFICATIONS

IBM AI ENGINEERING BY IBM ON COURSERA | *August 8th, 2024*
- Trained in understanding the application of neural network architectures for different use cases and experience with using ML libraries such as *Tensorflow, Keras,* and *PyTorch.*