JESSE XIA

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SKILLS

Languages: Python, C/C++, HTML5, SCSS/CSS3/LESS, Java, Javascript/Typescript, SQL, PHP, Lua, VHDL, MATLAB
Tools: Git, Linux, Flask, Node, React, Redux, Express, Angular, jQuery, Firebase, MongoDB, Ansible, Jupyter, Docker, Android
Other: Full-stack, MERN/MEAN/FERN, DevOps, REST/SOAP API, Data analytics, Data visualization, ML, Embedded

EDUCATION

University of Waterloo | Waterloo, ON, Canada   **2020 – 2025**
- Candidate for Bachelor's of Applied Science in Mechatronics Engineering
- Relevant courses: Data struct. & algorithms, AP Computer Science A (Java), Microprocessor Interfacing

EXPERIENCE

Network Automation Developer | Blackberry Ltd.   **Sep 2022 – Dec 2022**
- Designed $O(n)$ time complexity algorithm to generate report of network traffic history in Python, improving average runtime from ~10min to ~44sec
- Developed Python script to crawl network tree through consumption of SOAP API and output consolidated responses by automating XML POST requests using Jinja
- Built Python package for bulk editing & creation of network device backups through consumption of RESTful API
- Automated project creation with custom Gitlab command using Gitlab API in Python

Software Developer (Network Tools) | Rogers Communications Inc.   **Jan 2022 – Apr 2022**
- Built multiple custom Power BI visuals to display 500+ KPIs over 2 yrs with growth metrics, automatic filtering, and display indicators using Typescript, Power BI API, D3.js, LESS
- Coordinated with client to debug and ensure all requests were delivered on-time with 100% satisfaction rating
- Wrote Python script to automatically generate SARIMA-based data forecasting for 540+ KPIs in $O(n)$ runtime using matplotlib, pandas, numpy, statsmodels

Python Workshop Director | Waterloo Engineering Society   **May 2021**
- Single-handedly directed a Python scripting workshop for beginner-intermediate level programmers with 30+ attendees
- Instructed participants to develop Python bot to play Piano Tiles by simulating user input using PyAutoGui and PIL

Connected Software Core Member | WATOLINK (Neurotech 2022 1st Place Winner)   **Sep 2021 – Sep 2022**
- Developed UI/UX for mind-controlled keyboard using Python, PyQt, OpenGL, Figma
- Placed 1st internationally at NeuroTechX 2022 competition with team of 30+ people

Software Team Member | Waterloo Rocketry   **Sep 2020 – March 2021**
- Implemented unit tests for rocket launch simulation environment in Python

PROJECTS

Instagram Clone | MongoDB Atlas, React, Redux, Node.js, Express.js, Google OAuth   **Jul 2023 - Present**
- Developed Instagram replication using MongoDB Atlas, Express, React/Redux, Node and deployed via Heroku & Netlify, complete with creation, deletion, liking, and editing of posts through fully-responsive MaterialUI frontend
- Implemented Google sign-in via Google OAuth + account registration and authentication (in progress)

Hack the North 2021 | Firebase, Express.js, React, Node.js, Figma, Adobe Premiere Pro   **Jan 2021**
- Constructed & deployed road repair optimization web app in team of 4 using FERN tech stack + Heroku, complete with promotional video and dev log within 24hrs
- Assigned priority by estimating traffic density using Google Maps API and queueing scheduled road repairs in Firebase

Waterloo Engineering Competition 2020 | Python   **Nov 2020**
- Worked in team of 3 to solve programming problem involving cleaning robot pathfinding and resource optimization

Line Following Robot | C   **Aug 2022**
- Constructed & programmed line-following robot from scratch on custom PCB