Shaina Rosell

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EXPERIENCE

Data Engineer - 07/2024 – Present
Software Developer - 07/2020 – Present
O2 Planning & Design Calgary, Alberta, Canada

Languages: JavaScript · Python · SQL · jQuery · HTML · Cascading Style Sheets (CSS) · R Scripting
Libraries & Frameworks: React.js · TypeScript · Tailwind.css · REST APIs · MERN Stack · Tanstack Query · Node.js · D3.js · Git
Databases: MongoDB, CouchDB, AWS S3
Other: AWS Athena · Google BigQuery · Figma · Postman · Tableau Products · ArcGIS Pro · Full-Stack Development · Data Analysis · Data Visualization · Big Data

O2 is a nationally recognized, collaborative studio that integrates urban design, planning, landscape architecture, ecology, data analytics, and engagement and communications in a holistic practice to create highly valued places.

- Sole software developer in the data analytics and engagement team, responsible for web application design, development, testing and deployment (full-stack proficiency)
- Created web-based dashboard applications for clients and collaborated with diverse team of professionals including GIS Analysts to compile and present spatial data in web-apps.
- Keen eye for design. Used UI/UX tools like **Figma** and collaborated with graphic designers for the design and implementation of functional and aesthetically pleasing interfaces including data visualizations in internal analysis tools.
- Data analysis and visualization via **R/Python programming and BI tools**. Experience with **Big query/AWS Athena** and managing big data in **AWS**
- Developed **Python scripts** to create custom geoprocessing tools in **ArcGIS Pro**, enhancing efficiency in modifying and preparing spatial data in ArcGIS Pro.

Key Projects

- Web app platform that integrates **ArcGIS Maps SDK** for JavaScript with **React.js** for building mapping and spatial analysis applications for the web: Greener as We Grow & CMRB | City of Edmonton
- Created Online Web Based Maps & Surveys for Public Engagement. Integrated **leaflet.js** to overlay spatial data created in **ArcGIS**. Allow users to comment and give feedback on specific locations on a map with context along with **survey.js** for a traditional survey experience. Uses a **CouchDB** server as the database along with **CouchDB API** to handle data. This was done for multiple municipalities for multiple use cases across Canada.
    - Examples: bikesharetoronto
- Internal Web Application for Engagement Data Analysis and Coding
    - Integrated **machine learning concepts** through **python** models to help with suggesting classifications for coding qualitative data.
    - Use of **d3.js** library for creating interactive data visualization charts
    - **React.js** frontend with **Tanstack Query, Node.js + Express** based backend **REST API with MongoDB** and **Postman** to document API endpoints.
- Created Web-based Dashboards: Main Streets Metrics Program for the City of Calgary. Visualized latest datasets and metrics information on the chosen 24 Main Streets in Calgary. The dashboard integrated **leaflet.js** maps to show spatial data and **d3.js** for various visualization graphs across the dashboard. Main stack was **jQuery**, **require.js**, and **CouchDB** as the database
- Created Initial prototype of the Port Lands Story Stream App (formerly named Story Stream) which was O2's winning proposal submission for the 2021 "A new river innovation challenge" by Waterfront Toronto. Collaborated with urban planners, landscape designers to come up with innovative ways to present environmental data that will be collected on the development of the Port Lands Flood Protection Project. Features of this app include visualizing real time accurate water level, water temperature, and weather data. Users can populate the website with comments and photos when going out in the Portlands. The application was created using **React.js** with **tailwind.css** and **MaterialUI.** Backend consists of a **REST API (Node.js + Express)** backend with **mongoose** to interact with **MongoDB** database.

Personal Projects

- **Memory Mix (Nov 2024):** An individual project submission for "Google Photorealistic 3D Maps Challenge". Memory Mix lets you upload, organize, and explore your photos on a 3D map, using the Places API to predict locations you've visited, creating a visual journey through your memories. This app makes use of **Google Maps JavaScript API** with **Google's 3D Maps**. Check out the devpost here for a full project overview. (https://memorymix.netlify.app)

EDUCATION

2017-2022 | **Bachelor of Science, Computer Science**
University of Calgary | Calgary AB, Canada