

ANDREW W. ROSS, MSc.

Data Scientist

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SUMMARY

Quality-focused Data Scientist with over 9 years of experience designing spreadsheets, charts, maps, and data visualizations to support information sharing. Advanced knowledge of Python and related data-processing libraries, along with R and SQL to discover patterns, meaningful relationships, anomalies, and trends in large-scale datasets. Proven ability to collaborate effectively with cross-functional teams across organizations

SKILLS

Software development: Python: Data processing with Pandas, NumPy, Scikit-learn
Development of ETL pipelines
Test-Driven Development with Pytest
REST API development with FastAPI
SQL: PostgreSQL/PostGIS - complex queries, stored procedures, functions
R: Data cleaning, analysis, and visualization
GIT version control - code management, collaboration

Cloud computing: AWS Certified Cloud Practitioner Certification
Azure Fundamentals Certification
Docker containerization setup and management
Terraform IaC

Technical proficiencies: GIS: Expert in ESRI ArcGIS Pro and QGIS
Linux CLI and shell scripting

EXPERIENCE

Congruex
Spatial Data Engineer

San Diego, CA
June 2020 - Current

- Developed and deployed a cloud-based API infrastructure using Python and FastAPI on Azure to deliver 19 geospatial analysis, reporting, and data management services, enhancing functionality of mapping system for various departments at Congruex
- Engineered data analyses in Python with Jupyter Notebooks, GeoPandas, Shapely and other spatial libraries increasing access to corporate spatial data warehouse for project managers
- Trained GIS staff to support management of corporate mapping platform ensuring reliability and stability of the spatial database, map servers, GIT, Linux and related systems
- Dramatically improved speed and efficiency of support staff tasks by making routine geoprocessing workflows faster and more efficient; deploying tools and automations for data verification and management utilizing Jupyter Notebooks in Python for Geoserver and PostgreSQL
- Created automated data cleaning and quality assurance spatial ETL pipeline to consolidate geospatial data from partner organizations, processing over 13 million features per day using containerized infrastructure on Azure

Freelance
Data Analyst

San Diego, CA
January 2019 - May 2020

- Developed and deployed targeted surveys providing insights into customer engagement and product utilization
- Improved results by working closely with clients to deeply understand their needs and requirements
- Increased scale and analysis turnaround by automating end-to-end process to verify, clean, consolidate and analyze data in Python
- Improved depth of analysis by incorporating concomitant datasets and creating reporting pipelines in Python
- Deployed interactive dashboards and visualizations to facilitate access to data and develop insights

BC Transit
Geospatial Data Analyst

Victoria, Canada
January 2013 - October 2018

- Performed statistical and spatial analysis on ridership data for administrative and planning departments, preparing reports and summaries directly supporting decision making for the management and planning of the transit network
- Deployed reporting and analysis system, built with Python and Jupyter Notebooks, processing 150,000+ transactions per day from a fleet of 700+ vehicles, providing detailed insights into transport ridership patterns
- Developed performance metrics system to monitor security and quality of regional reporting systems improving alerting and notification of farebox security incidents and technical problems
- Created continuous monitoring system with multiple departments ensuring uninterrupted stream of transportation ridership data
- Managed updates and integration of economic, demographic, and transportation data into the corporate spatial data warehouse and maintained data governance processes and procedures
- Received the 2015 corporate Recognizing Excellence and Values award for helping to create a cross-departmental team that significantly improved transit vehicle farebox data collection

EDUCATION

Udacity Nanodegree

Bertelsmann Scholarship, AI Programming with Python

Queen's University

Master of Science, Computer Science

Kingston, Canada

University of Ottawa

Graduate Diploma, International Development

Ottawa, Canada

Queen's University

Bachelor of Science, Psychology & Computer Science

Kingston, Canada