Alex Gallagher:
GIS Analyst

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EDUCATION

Advanced Diploma in Geographic Sciences May 2017
Geographic Information Systems
Centre of Geographic Sciences, Nova Scotia

Bachelor of Science in Environmental Sciences December 2015
Minor in Geographic Information Systems, Honours
University of Guelph

ASSETS

- Experience designing, developing, & maintaining corporate databases
- Comprehensive working knowledge of ESRI products; ArcGIS Desktop, ArcGIS Online, ArcGIS Catalog, & ArcGIS Pro
- Working knowledge and experience programming in Python, JavaScript, SQL & CSS
- Excellent listening skills and able to communicate effectively both verbally and in written form
- Researched & tested over 130 GIS web applications from municipalities across Canada

PROFESSIONAL EXPERIENCE

GIS Technician January 2019 - present
Halifax Regional Municipality *Halifax, Nova Scotia*

Curbside Giveaway Web Application

- Updated the Curbside Giveaway Application, using Survey123 and arcade expressions to simplify and customize the symbology and editing process
- Provided a dynamic link in pop-ups using attribute information and URL parameters to edit submissions

Point Pleasant Web Application

- Created an interactive and informative application to provide the public with Point Pleasant Trail information and a mobile-friendly guided audio tour
- Used arcade expressions to link trail ids to trail names to provide labels and pop-up information
- Used knowledge of html. JavaScript, and StoryMap actions to implement responsive buttons for showing labelled trails and bike routes within the park
- Used knowledge of html to embed supplementary audio for historic locations within the Park

Recreational Fields Classification Script

- Python script cross-references a list of over 360 recreational fields given by the business unit, with a list of officially named fields
- Reads raw data from .csv and performs initial data cleanup using regex substitution methods to quickly implement conventional naming methods

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- Defined an acceptable confidence score and processed data using 6 methods of approximate string matching based on the *Levenshtein distance computing algorithm*
- Correctly identified over 80% of the fields and wrote results to .csv

Disposed Park Asset Identification & Updating Script

- Identifies Park_Rec assets marked as disposed and updates the record with the appropriate Rec_ID – removes associated point if no longer required
- Scripted with Arcpy and implemented into a Script Tool for ease and shareability between users
- A dated report is generated each time the tool is run to track the results
- Automates a weekly task assigned by the business unit

GIS Analyst   June 2017 – January 2019
Eastlink   *Halifax, Nova Scotia*

- Created detailed technical documentation and provided one-on-one training for the processes and software used to complete a variety of different GIS analyses, projects, and initiatives
- Managed, maintained, and updated the corporate serviceability database using ArcGIS Desktop and database queries, providing weekly updates to existing records, and maintaining data quality standards
- Developed a field data collection procedure using ArcGIS Online and ArcGIS Collector & integrated acquired data into the department's GIS
- Generated weekly reports analyzing web app data using python's Pandas module & esri's python API
- Reduced duplication and data entry errors using python to ensure quality control
- Performed extensive data cleanup and database maintenance while fulfilling corporate standards, to geocode over 140 000 addresses of potential customers

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TECHNICAL SKILLS AND CERTIFICATIONS

GIS

- ArcGIS Desktop	- ArcGIS Online	- ArcGIS Catalog
- ArcGIS Pro	- ArcGIS Server	- ArcGIS Enterprise
- Collector for ArcGIS	- ModelBuilder for ArcGIS	- Web App Builder

Programming

- Python	- JavaScript	- C#
- Ruby	- SQL	- CSS & HTML

Database Management Systems

- PostGreSQL	- Oracle SQL Developer	- SQL*Plus
- SQLite	- SQL Server	- MS Access

Esri Online Certificates

- "Python Scripting for Map Automation" - 2018	- "Basics of JavaScript Web Apps" - 2018	- "3D-Analysis of Features & Surfaces using ArcGIS GIS" -2017

PERSONAL/CAREER DEVELOPMENT

The Odin Project

Web Development 101 – Completed

- Command Line Basics
- JavaScript Basics
- Git
- Ruby Basics
- HTML & CSS
- Ruby on Rails Basics

Ruby Programming – In Progress

- Blocks, Procs, & Lambdas
- Modules & Mixins
- Object Oriented Programming

TDWI, Data Analytics

Intro. to Python for Data Analysis – Completed

- For loops, while loops, if/else statements
- Pandas
- Loading .csv data in MySQL/PostgreSQL databases
- Functions
- Read/Write Files

Code Academy

Learn Ruby – Completed

- Control Flow & loops
- Blocks & Sorting
- Arrays & Hashes

Kijiji Apartment Scraper

- Used python and the *Beautiful Soup & folium* libraries, to scrape Kijiji data to map apartments
- Program enabled the user to specify location and search distance of interest to query matching results
- A .csv report is created, along with a Web Map that displays search locations and results
- Pop-ups added to the map containing housing ad information such as the link, pictures, price, and other meta-data

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