**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
* 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



**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 * SQLite | * Oracle SQL Developer * SQL Server | * SQL\*Plus * 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

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

Ruby Programming – In Progress

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| --- | --- | --- |
| * 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 | * Loading .csv data in MySQL/PostgreSQL databases | * Read/Write Files |
| * Pandas | * Functions |  |

***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