

Inderpreet Singh Badesha

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EDUCATION

University of Waterloo

BES Double Major: Honours Geomatics and Knowledge Integration

Waterloo, ON

2022 – Present

Safe Software

FME Form Basic Certified

University of Waterloo

SDLC and Agile Methodologies

SKILLS

Languages: Python, SQL, JavaScript/Typescript, Lisp, HTML/CSS, C++, Java

Libraries: Pandas, ArcPy, Geopandas, Numpy, Matplotlib, Mapbox, React, Arcade, Next.js, Tailwind

Developer Tools: ArcGIS, FME, Jupyter Notebook, Figma, AWS, FileZilla, Google Cloud, Git, PowerBI, PostGIS

EXPERIENCE

GIS Data Intern | *ArcGIS, Python, SQL, FME, PowerBI, Database Design*

May 2025 – Present

City of Mississauga

Mississauga, ON

- Created a new process using **FME** and **ArcGIS** to create an **address routing dataset** for the Fire Department
- Built pipelines to feed **Power BI** dashboards, enabling **real-time monitoring** and **data-driven insights** for NG911
- **Automated** NG911 Sub-addressing efforts with **Python** and **ArcPy**, reducing total data entry times by **2x**
- Increased data accuracy in layers by conducting analysis and data cleaning using **SQL**, **Python**, and **FME**
- **Developed scripts in Python** to reduce data organization procedures for By-Law updates

Automation Developer - Contract | *Python, Excel*

Jan. 2025 – Feb. 2025

Star Supply Toronto

Toronto, ON

- Developed scripts in **Python** to automate excel data entry collections, reducing manual input by **60%**

Web Developer | *ReactJS, Tailwind CSS, Node.js, HTML/CSS, AWS*

May 2024 – August 2024

Anchor Truck Repair

Milton, ON

- Optimized website performance, reducing load times by **30%** through image optimization and code cleanup
- Developed an intuitive **UI** using **ReactJS & Tailwind CSS**, enhancing user experience and accessibility

Engineering Intern | *ArcGIS, Excel, AutoCAD, Microsoft Suite*

Jan 2024 – Apr 2024

Tay Township

Tay, ON

- Aided in **migrating operational data to integrate in PSD CityWide** through **QA/QC**, ensuring **data integrity**
- Met with Stakeholders to understand their GIS/CAD needs for construction projects, Fire Halls, road maintenance, etc
- Utilized **ArcGIS** to manage geospatial utility data and design maps for **municipal stakeholders**

PROJECTS

Multi-Criteria Data Processing & Optimization (*Wind Turbine Suitability Analysis*)

May 2024 – August 2024

University of Waterloo

Niagara Falls, ON

- Designed a **data extraction pipeline** to process wind speed and land-use datasets
- Conducted **multi-criteria spatial analysis** to determine optimal wind turbine locations
- Utilized **QGIS**, **ArcGIS**, and **Python scripting** to automate data transformation and visualization

NBA Statistical Analysis | *Python, Pandas, GeoPandas, Matplotlib, Jupyter Notebook, ArcGIS*

- Used **Pandas** and **Matplotlib** to plot NBA on-court shooting statistics, automating processing and mapping
- Created **heatmaps** of plotted statistics and **conducted analysis** by comparing player maps using **ArcGIS**
- Outputted final layouts of the heatmaps overlaid onto a Raptors court, alongside graphics of the players

Waterloo Crime Study | *Python, SQL, Excel, ArcGIS, QGIS*

- Processed crime and census data with **Python**, performing cleaning, transformation, and coordinate alignment.
- Used spatial joins in **SQL queries**, mapping data to hexagonal grids to calculate crime densities and identify trends.

COURSES

Business Technology and Infrastructure | *Agile, Kanban, SDLC, Project Management* May 2024 – August 2024
University of Waterloo Waterloo, ON

- Applied **Agile** practices such as **sprint planning**, **user stories**, and **backlog management** in simulated projects
- Created and refined iterative prototypes based on simulated feedback
- Documented and analyzed **SDLC** phases to enhance understanding of project workflows and quality assurance

GEOG381: Geospatial Data Analysis | *Python, Pandas, Numpy, ArcPy, ETL, ArcGIS* May 2024 – August 2024
University of Waterloo Waterloo, ON

- Developed **Python scripts** to process and analyze spatial datasets, using **Pandas**, **NumPy**, **ArcPy**, and **Geopandas**
- Designed and implemented **data extraction** procedures for geospatial and environmental data
- Worked with **APIs** (e.g., OpenStreetMap, climate data sources) to **collect and integrate datasets**
- Applied **web scraping** techniques to gather publicly available environmental and demographic data