

# Gurkirat Panesar

## GIS Data Analyst

- GIS Portfolio
- Personal Website
- GP254
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### EDUCATION

**Bachelors of Environmental Studies, Geomatics Co-op**  
University of Waterloo  
Sep 2022 – Present

### TECHNICAL SKILLS

- GIS**  
ArcGIS Pro, ArcGIS Online, ArcPy, ArcUrban, QGIS, AutoCAD
- Data Analysis**  
MySQL, PostgreSQL, Pandas, Matplotlib, Numpy, PowerBI, Excel
- Languages**  
Python, JavaScript, Typescript, C, Racket, R, HTML, CSS, React, NextJS
- Tools**  
Git, Azure DevOps, Figma, Adobe XD, Netlify, Heroku

### RELEVANT COURSES

- Geospatial Data Science
- Data Types & Structure
- Advanced GIS
- Advanced Remote Sensing Techniques
- Computer Applications in Business Databases

### CERTIFICATIONS

- Python Advanced Concepts
- Introduction to GeoAI

### EXPERIENCE

**GIS Library Associate** Sep – Dec 2024  
University of Waterloo – Geospatial Centre  
Waterloo, ON

- Developed a searchable Air Photo Collection Dashboard using **ArcGIS Experience Builder**, transforming raster mosaics into a point dataset to enable efficient retrieval of photos by year and municipality.
- Compiled and refined campus path data from **OpenStreetMap** to create the UWaterloo Campus Paths **Network Dataset** in **ArcGIS Pro**, enhancing campus navigation as needed for future GIS projects.
- Developed an interactive **StoryMap** showcasing all campus greenspaces and a 20-minute interactive green space tour map using the Campus Network Dataset for the university's Green Office.
- Created the Geospatial Centre Open Data Portal using **ArcGIS Hub**, streamlining data and airphoto downloads from the **ArcServer** repository.
- Processed and updated 3 million Teranet property records with **PostgreSQL**, linking them to property boundary shapefiles and clipping data by municipality using **ArcPy**.

**Data Analytics Technician** Jan – Apr 2024  
The Regional Municipality of York – Corporate Services  
Newmarket, ON

- Conducted geospatial analysis using **ArcGIS Pro** assessing potential affordable housing redevelopment locations on provincial-owned lands considering a range of spatial factors.
- Researched zoning bylaw policies to develop an interactive map representing the Yellow Belt for each municipality in York region using **ArcGIS Pro/AGOL**
- Created multiple maps depicting housing supply and development statistics for York Regions 2023 Official Plan by systematically preparing the data and designing layouts in **ArcGIS Pro**
- Assisted in the transition away from **MS Access** Regional Street Naming database, implementing Agile user story standards for enhanced functionality, efficiency, and up-to-date data management.
- Utilized **AGOL tools** to develop urban models, multi-layer feature classes, and web applications supporting projects led by Senior GIS Analyst/Planners
- Georeferenced and drew boundaries for development plans integrating them to the mosaic dataset using **ArcGIS Pro**

**Jr. QA Developer** Jan – Apr 2022  
MCAP Financial Corporation  
Waterloo, ON

- Collaborated with cross-functional Agile teams to perform quality assurance evaluations, ensuring customer requirements were met with no defects
- Created, executed, and maintained automated test suites for various mortgage application portals using **Cypress**, effectively tracing issues that arose during the development process.
- Implemented automated testing tools through **CI/CD pipelines** for scheduled automation tests, significantly reducing business hourly cost of manual regression/functional testing by \$40+/hour.
- Conducted API and performance tests using **Postman** and **JMeter** to ensure optimal system functionality and performance.
- Managed **MySQL** and **Excel** test user databases using specialized queries and functions to retrieve, organize, update, and create detailed test user mortgage data.

**Web Developer** Sep – Dec 2021  
Amans Henna Creations  
Brampton, ON

- Developed a responsive business landing page using **React** and **NextJS** to showcase a henna artist's designs and services, incorporating dynamic animations and a contact form powered by email **API**.
- Enhanced **SEO** strategies by incorporating blog posts and a robots.txt file, resulting in a gain of 10,000+ Instagram followers and 1,000+ customers.
- Created a visually appealing and user-centric landing page design in **Figma**, ensuring an intuitive layout and seamless user experience for the business website.
- Optimized website performance by implementing **caching** strategies for content such as images and videos, reducing load times by 40% and enhancing user experience across high-traffic pages.

### PROJECTS

**Crime Analysis of Waterloo Region (Git)**

- Conducted spatial crime analysis of Waterloo Region using **ArcPy**, automating workflows to identify crime trends near facilities and infrastructure, supporting public safety and urban planning

**Canadian Nursing Workforce Spatial Data Analysis (Git)**

- Analyzed nursing workforce data using **Python** libraries (Pandas, Matplotlib, Seaborn) uncovering trends and insights on workforce inflow and outflow by municipality in relation to economic factors

**Student Performance Data Analysis (Git)**

- Performed EDA, correlations, regression modeling, and visualizations with Pandas, Matplotlib, Seaborn, and Scikit-learn, revealing links between scores, parental education, and test preparation