

# GURKIRAT PANESAR

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## Education

### University Of Waterloo

2022 – Current

*Bachelors of Environmental Studies, Geomatics Co-op*

*Waterloo, ON*

Relevant Coursework: Computer Science 1 (Racket), Elementary Algorithm Design & Data Abstraction (C), Data Types & Structures (Python), Macroeconomics (R), Probability (R), Environmental Apps of Data Mgmt and Stats (Excel), Designing Effective Maps (QGIS), Intro to GIS (ArcGIS Pro), Geospatial Data Science (Excel, ArcGIS), Earth from Space Using Remote Sensing (PCI Geomatica, Python), Advanced GIS (ArcGIS Pro)

## Technical Skills

**Languages:** JavaScript, Typescript, Python, C, C++, Racket, R

**GIS/Geospatial Analysis:** ArcGIS Pro/Online, ArcUrban QGIS, AutoCAD

**Developing Experience:** Front-End (React, Next.js), Back-end (NodeJs, Express, MongoDB)

**Data Analysis & Management:** Excel, SQL (MySQL), Python (Pandas, Matplotlib, Numpy, SciPy), R, PowerBI

**Markup & Styling:** HTML, CSS, Bootstrap, React Bootstrap, Styled Components

**Developer Tools:** Git, Azure DevOps, Figma, Adobe XD, Netlify, Heroku

## Experience

### The Regional Municipality of York - Corporate Services

Jan 2024 – Apr 2024

**Data Analytics Technician** | *ArcGIS Pro, ArcUrban, AGOL, GeoCortex, Excel, MS SQL, PowerBI* *Newmarket, ON*

- Conducted geospatial analysis assessing potential affordable housing redevelopment locations on provincial-owned lands considering a range of spatial factors (e.g buffers from floodplains, highways, protected areas, pre-existing properties)
- 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
- Managed data integrity of MS SQL Server spatial databases (geodatabases), troubleshooting errors and improving data quality

### MCAP Financial Corporation

Jan 2022 – Apr 2022

**Jr. QA Developer** | *Javascript, Cypress.js, Postman, JMeter, Azure DevOps, MySQL, PowerBI*

*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
- Developed comprehensive test plans, scenarios, and test cases for manual web application testing
- 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

## Projects

**Personal Website** | *React.js, Next.js, React Bootstrap, Styled Components, Netlify* [Link](#) [Git](#)

- Developed personal website to showcase my work experience and projects
- Used Styled Components to develop UI wave animations and appealing UI components

**Nursing Workforce Spatial Data Analysis** | *ArcGIS, QGIS, Jupyter Notebook, Python, Matplotlib, Pandas, Numpy, Seaborn* [Git](#)

- Conducted thorough spatial analysis on Canadian nursing workforce data using ArcGIS.
- Extracted valuable insights from diverse datasets and visualized trends through data manipulation and visualization techniques.

**GIS/Data Analysis Portfolio** | *ArcGIS StoryMaps* [Link](#)

- Used ArcGIS Storymap to create a centralized location to display all my Data Science and GIS projects and experience in greater detail.

**Polynomial-Graphing-Tool** | *Python, Matplotlib, Numpy* [Git](#)

- Developed a graphing tool that allows users to graph a polynomial and its derivatives.
- Used PyInquirer to prompt the user for information about the polynomial equation.