Garrett Holmes

Toronto, ON

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Skills

Programming Languages	C, Python, SQL, Java, HTML, CSS, Javascript
GIS Tools	ESRI Products, ArcGIS, QGIS, WhiteboxTools, arcpy, SPSS, Spatial Databases, geopandas
Software Environments	Linux/UNIX, React, React Native, NodeJS, LaTeX, SQL DBMS
Artificial Intelligence	AI Models, PyTorch, numpy, RCNN
Office Tools	Microsoft Office, Excel, Adobe Suite, LaTeX
Creative Skills	Photography, Videography, 2D animations, Video Production, Video Editing

Education

Toronto Metropolitan University — *Toronto, ON*

Master of Spatial Analysis — *Sept 2024 -*

- Ongoing Thesis
- **Courses:** Database Management and Spatial Technology, Applied Spatial Statistics, Cartography and Geovisualization, GIS Project Management Applications, Remote Sensing

University of Guelph — *Guelph, ON*

Honours Bachelor of Computing, Major in Computer Science, Minor in Geographic Information Systems and Environmental Analysis — *Sept 2019 - Dec 2023*

- Graduated with Distinction.
- **Courses:** Software Engineering, Software Development, Computational Intelligence, Computer Graphics, Cloud Computing, Parallel Programming, Network Programming, Systems Programming, Compilers, Remote Sensing, Applied Geomatics

Projects

Site Suitability Index for Small Wetlands in Southern Ontario — *Toronto Metropolitan University*

Worked with Ducks Unlimited Canada to research and build an index model for identifying wetland conservation and conversion sites. — *Fall 2024*

- Performed literature review of research on key wetland features and conservation.
- Used GIS software to normalize data layers and create a suitability index using a Multi-Criteria-Evaluation approach.
- Part of GIS Project Management Applications Course at TMU

Moose Habitat Suitability Modelling in Northern Ontario — *University of Guelph*

Evaluation and analysis of Moose Habitat sustainability in the Missinaibi Forest — *2023*

- Collaborated with students and graduate to identify areas of concern, research plan.
- Performed a detailed literature review of moose habitat suitability and environmental concerns related to indstrial logging, including government policy and forestry guidelines.
- Investaged and prepared vector data provided through government resources and forestry for analysis.
- Derived raster layers and relevant information and developed a Habitat suitability model using ArcGIS pro.
- Available through my website.

Work Experience

Toronto and Region Conservation Authority — *Toronto, ON*

GIS Intern — *2025*

- Worked with interdisciplinary teams to analyze business and conservation data and create maps and figures.
- Used ESRI products to design dashboards, create custom raster functions, support GIS data product creation.
- Used Feature Manipulation Engine and python to automate data workflows and generate detailed analytics reports.

University of Guelph — *Guelph, ON*

Undergraduate Research Assistant — *2022*

- Worked under Dr. Stacey Scott to review and summarize academic publications relating precision agriculture and computer vision.
- Self-directed research of contemporary neural network concepts and methods.
- Exploration of Mask-RCNN, YOLO, detectron2 API networks.
- Used PyTorch and OpenCV to train a residual neural network to classify cattle in frames of video to support concurrent agriculture research.
- Code available on github.

References available upon request.