Henry Chen

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EDUCATION

Toronto Metropolitan University   Toronto, ON
Master of Spatial Analysis   *Sept. 2023 – Oct 2024*

Queens University   Kingston, ON
Bachelor of Arts and Sciences in Geography, Minor in GIS and Urban Planning   *Sept. 2018 – Dec 2022*

EXPERIENCE

Graduate Research Assistant   Dec 2023 – Present
Toronto Metropolitan University   *Toronto, ON*

- Designed and implemented machine learning algorithms to analyze and extract meaningful insights from the collected data, contributing to the development of predictive models for future applications
- Collected and curated diverse datasets, including park files, road networks, and building information, to establish a comprehensive foundation for 3D modeling and analysis
- Utilized advanced modeling techniques to construct detailed 3D representations of urban environments, providing a visual and quantitative understanding of spatial relationships

Geographic Information Systems Specialist   Jan. 2024 – Sept 2024
Toronto Humane Society   *Toronto, ON*

- Accurately sorted, cleaned, and organized large datasets to ensure data integrity and facilitate information decision-making
- Designed and implemented a database to efficiently store, retrieve, and analyze critical GIS data, enhancing operational efficiency
- Developed interactive dashboards to visualize complex spatial data, providing clear insights for staff and other stakeholders to make data-driven decisions

Geographic Information Systems Specialist   Sept 2023 – Nov 2023
Wild Fork   *Toronto, ON*

- Leveraged Geographic Information Systems (GIS) and advanced spatial analysis techniques to identify high-potential areas for new store locations based on customer delivery data and demographic information. data accuracy and consistency
- Utilized demographic data from sources like the Census Bureau and Consumer Market Analytics (CMA) to understand customer preferences, purchasing behavior, and socioeconomic factors.
- Combined geospatial analysis and demographic profiling to optimize store location decisions, maximizing market potential and minimizing operational costs.

PROJECTS

ML for Noise Propagation with Satellite Imagery | *Python, Tensorflow*   Jan 2024 – Present

- Developed a full-stack web application using with Flask serving a REST API with React as the frontend
- Implemented GitHub OAuth to get data from user's repositories
- Visualized GitHub data to show collaboration
- Used Celery and Redis for asynchronous tasks

ON Census Average Income Residuals | *SPSS, ArcGIS*   Sept 2024 – Dec 2024

- Developed a average income residuals mapping
- Created different maps, K-mean and Hierarchail

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R, SPSS, bash
Frameworks: ArcGIS Pro/Online, SQL Database, ArcMap, SPSS, QGIS, Google Earth Engine, FME, ArcGIS Drone2Map, Alteryx, VS Code, Visual Studio, PyCharm, LiDAR
Libraries: pandas, NumPy, Matplotlib, Scikit-learn, Keras, Tensorflow, PyTorch, Jupyter