Leo Keenan

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Dynamic and results-driven Geomatics and Computer Science professional with a Bachelor's degree in Computer Science with a Minor in Geomatics from Carleton University. Adept at leveraging spatial data and advanced computational techniques to solve complex geographic problems. Proficient in geospatial analysis, data visualization, and full-stack development. Eager to contribute to innovative projects that combine technology and geomatics to create impactful solutions.

SKILLS

- **Geomatics**: Proficient in GIS platforms such as ArcGIS, QGIS, and SAGA GIS. Strong understanding of cartographic design, geospatial data analysis, and interpolation techniques.
- **Programming and Development**: Expertise in Python, Java, C++, SQL, and JavaScript for geospatial and data-driven applications. Familiar with front-end technologies such as HTML and CSS.
- **Data Management**: Skilled in database design, optimization, and large-scale data handling.
- **Software Proficiency**: Experience with Adobe Creative Suite, Microsoft Office, and Google Workspace.
- **Problem-Solving**: Strong analytical mindset with a focus on data-driven decision-making.

EDUCATION

Carleton University
Bachelor of Computer Science, Minor in Geomatics
September 2021 - April 2025

SELECTED ACADEMIC PROJECTS

GEOM 4001: Remote Sensing with Synthetic Aperture Radar
Creating Digital Elevation Models using Sentinel-1 Data

- Authored a comprehensive guide for creating Digital Elevation Models using Synthetic Aperture Radar (SAR) data from Sentinel-1 satellites.
- Applied interferometric techniques in the Sentinel Application Platform (SNAP) software to process radar imagery and extract elevation data.
- Implemented phase unwrapping using SNAPHU to generate accurate terrain models.
- Documented the complete workflow from data acquisition through preprocessing, interferogram formation, and terrain correction to final DEM creation.

GEOM 4009: Custom Geomatics Applications
Automatic Image Downloader

- Developed an automated satellite imagery downloader tool for the Polar Continental Shelf Program (PCSP) to assist with near real-time weather monitoring for Arctic aircraft operations.
- Implemented a Python script that downloads MODIS Aqua and Terra satellite imagery, processes HDF files using GDAL, and generates multiband composite GeoTIFFs.
- Created comprehensive documentation including installation guides, user manuals, and troubleshooting resources.

GEOM 3007: Cartographic Theory and Design
Development Mapping

- Designed maps using advanced cartographic techniques to illustrate multiple perspectives on development issues.
- Applied statistical analysis to support data-driven storytelling.

GEOM 4008: Advanced Topics in Geographic Information Systems
Error Analysis in DEMs

- Investigated interpolation methods and sources of error in Shuttle Radar Topography Mission (SRTM) Digital Elevation Models (DEMs).
- Conducted error analysis to improve spatial data accuracy.

COMP 3005: Database Management Systems
Database Design and Implementation

- Created a robust database to manage over one million data points from European football leagues.
- Optimized performance using relational schemas and entity-relationship diagrams.

COMP 3804: Design and Analysis of Algorithms
Algorithm Optimization

- Analyzed shortest-path algorithms for time and space efficiency.
- Developed tailored algorithms to meet specific constraints.

COMP 3004: Object-Oriented Software Engineering
Automated External Defibrillator (AED) Simulation

- Led an Agile team to design and implement a simulation program for AED functionality.
- Created detailed documentation, including use cases and class diagrams, to guide development.

EXPERIENCE

Elmdale Tennis Club, Ottawa – Club Steward
May 2022 - October 2024

- Collected and presented geospatial data and statistics to improve member experience and inform program planning.
- Created maps and visual aids to address membership trends and optimize facility usage.

Carleton University, Ottawa – Camp Counsellor
May 2018 - August 2018

- Designed and led technology workshops for Indigenous youth, integrating GIS and programming basics into engaging activities.
- Facilitated hands-on learning experiences to spark interest in STEM fields.

CERTIFICATIONS

- Google AI Essentials
- AODA (Accessibility for Ontarians with Disabilities Act) Training Certificate
- Smart Serve Ontario