

JIAAO GUO

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EXPERIENCE

Remote Sensing Analyst, NWT Centre for Geomatics, Government of Northwest Territories
August 2020 – Current

- Satellite & airborne-based image processing and distribution to GNWT clients.
- Remote sensing product data storing, publishing, server testing, and user guide development.
- Assisting long-term landscape change detection using Landsat stacks.
- Spatial analysis for projects including landfill capacity, hiking trail cost-distance simulations, object-based classification for glaciers and ice patches.
- Operational mapping for wildfire control during the summer season.

GIS Specialist; Research Assistant, Department of Geography, University of Calgary
January 2019 – Current

- Task-based mapping and spatial analysis for Canadian mountain environment, funded by Canadian Mountain Assessment, Canadian Mountain Network (CMN).
- Developed / implement mapping “toolkit” for the Accelerating Implementation of RenewableEnergy (AI-RE) project in Canmore, Alberta, funded by Quality Urban Energy Systems of Tomorrow (QUEST).
- Using GIS and spatial analysis to understand sidewalk-width patterns and generating web-mapping app for promoting a walkable and safe Calgary during the COVID-19 pandemic.
- Developed and still maintain a map series of influenza outbreak in Alberta for TARRANT Viral Watch team, Family Medicine at Cumming School of Medicine.

SKILLS

GIS: ESRI’s ArcGIS Desktop, ArcGIS Online, and ArcGIS Pro; FME, QGIS, Whitebox Geospatial

Programming/Web language: Python ([sample work](#)), JavaScript, HTML, Markdown

Remote sensing: PCI Geomatica, Erdas Imagine, eCognition Developer, LASTool, Google Earth Engine API, ESA SNAP Tool

Database management: MySQL, PostgreSQL/PostGIS

Statistical tool: R, Python

Microsoft Office (Word, Publisher, Excel, Outlook, Power Point)

Hardware: Experience in using ASD FieldSpec spectrometer, Etrex Vista & Montana 680 GPS receiver

EDUCATION

Master of Geographic Information System, University of Calgary

September 2017 – August 2019

- Course taken include advanced GIS, GIS-based Python programming, urban GIS, advanced remote sensing, spatial-statistics. Thesis: “Mapping Renewable Energy Capacity in Canmore, Alberta: Implementing a Standardized Mapping Framework and GIS-based MCDA”.

BSc, Honor Specialization in Environmental Science, University of Western Ontario

September 2013 – April 2017

- Course taken include GIS, decision making in GIS, cartography, and remote sensing. Thesis: “Estimating the Complete Surface Temperature of the Greater Toronto Area” using MODIS thermal bands and Environment Canada’s Surface Prediction System.

PUBLICATION

Fast, V., & Guo, J. (2021). Putting Pedestrians First: Sidewalk Infrastructures, Width Patterns and COVID-19. *GI Forum*, 9(2):242-250. https://doi.org/10.1553/giscience2021_02_s242

McDowell, G., & Guo, J. (2021). A Nationally Coherent Characterization and Quantification of

Mountain Systems in Canada. *Mountain Research and Development*, 41(2), R21.
<https://doi.org/10.1659/MRD-JOURNAL-D-20-00071.1>

Guo J, Fast V, Teri P, Calvert K. (2020) Integrating Land-Use and Renewable Energy Planning Decisions: A Technical Mapping Guide for Local Government. *ISPRS International Journal of Geo-Information*; 9(5):324. <https://doi.org/10.3390/ijgi9050324>

Guo, J., & Fast, V. (2019). Growing Up, Growing Out: Comparing Spatial Patterns of Urban Populations in Canada. *Geomatica*, 73(2): 45-61. <https://doi.org/10.1139/geomat-2019-0011>

Guo, J., & Fast, V. (2019). Spatial Insights on Urban Density: A Case Study of Calgary. Proceedings of the 7th Conference on Spatial Knowledge and Information Canada, 7(3), 2. <http://ceur-ws.org/Vol-2323/>

GROUP

Canadian Mountain Network

2020 July - current

Canadian Institute of Geomatics (CIG)

2019 December – current

CONFERENCES

GI-Forum 2021

2021 August – Vienna, Austria (Virtual)

- Title: Putting Pedestrians First: Sidewalk Infrastructures, Width Patterns, and COVID-19

56th Annual Geography Department Conference (University of Calgary)

2019 March – Calgary, AB

- Title: Comparative urban density: analyzing Calgary's 14 new communities

7th Conference on Spatial Knowledge and Information Canada

2019 February – Banff, AB

- Title: Spatial Insights on Urban Density: A Case Study of Calgary
Best Presentation Award at Spatial Knowledge and Information (SKI) Canada

Canadian Association of Geographers, Ontario Divisions (CAGONT) 2019

2019 November – Guelph, ON

- Title: Mapping Renewable Energy Opportunities for a Small Municipality: A Case Study in Canmore, AB

Canada Energy Regulator: GIS Day Conference, Calgary (2019)

2019 November – Calgary, AB

- Title: Land-based Renewable Energy Mapping: A Local Planning Guide for Canmore, Alberta

EXTRACURRICULAR ACTIVITIES

Firefighter (on-call volunteer-based), Fire Department, Town of Inuvik

2021 September – current

- Have 200+ hours of standard firefighter training; responded to fire calls as paged by the fire chief officer; fire alarm and extinguisher checked and helped fire prevention awareness education to the local communities.

Weekly Volunteer, Wing Kei Senior Care Centre (Calgary)

2018 October – 2020 March (suspended due to COVID-19)

- Assist the recreational programs to accompany elderly residents (300+ hours).

Weekly Volunteer, University of Calgary

2018 September – 2019 April

- Student Wellness Centre: help to foster and student participation of international grad students peer support.
- International Student Services: guide and provide resources to international students.