

Genevieve Burgess

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Work Experience

Reference Point Coder - LTE

September 2018 – Present, Wisconsin Department of Transportation (WisDOT)

- Code crash reference points on State Highways, US Highways, and Interstates for the State Highway Patrol using the WisDOT Reference Point System. Average crashes coded amounted to 200 a day using the Resolve Crash Database System created by the Wisconsin Traffic Operations and Safety Laboratory.
- Created Radio Coverage Analysis Map to help determine where there is a gap in radio coverage for state troopers around the state. The map was created using officer data from MACH, a mapping and communications software used for law enforcement and other state agencies.

GIS Database Technician – LTE

March 2018 – September 2018, Wisconsin Department of Transportation (WisDOT)

- Migrated and standardized culvert data from outdated formats to an online database in ArcGIS Online (AGOL). Over 60,000 culverts were included in the migration in the 6-month period. This project also included setting up collection maps using ArcGIS Collector to add culverts that were not already inspected or accounted for.
- Worked with Regional Highway Inspectors to better understand culvert maintenance and where improvements could be implemented in the collection or inspection process.

Student Intern

January 2017 – July 2017, NASA Jet Propulsion Laboratory

- Assisted in preliminary investigation and implementation for Bidirectional Reflection Distribution function (BRDF) Correction – an assessment of methods to correct plane mounted spectrometer.
- Worked on the San Francisco Bay Delta Water Quality Project. This project was to assess if remote sensing of water quality (suspended sediment and chlorophyll-a) using high resolution satellite data (Sentinel-2A and Landsat 8) compared to *in situ* water quality measurements taken by US Geological Survey (USGS) and the California Data Exchange Center (CDEC) is viable.

Student Hourly Researcher

January 2013 – August 2017, UW-Madison Space Science and Engineering Center (SSEC)

- Processed and Rendered 3D images of tropical cyclones with hyperspectral data using in house data processing applications. Presented “Visualization of the 3-Dimensional Structure of Clouds and Water Vapor in the Hurricane Environment,” a summarization of the project, at the student poster session during the 2014 annual American Meteorological Society meeting.
- Created spectral analysis graphs comparing Thermal InfraRed Radiance (TIR) between satellites for the “Satellite Inter-Calibration of the JAXA GOSAT Thermal InfraRed Radiance (TIR) using NASA AIRS, EUMETSAT IASI, and NOAA CrIS Sensors.”
- Created surface temperature comparison graphs and maps of the Greenland Plateau, measuring the temperature changes between 2003 and 2015 for “Uncertainty Estimates of NASA Satellite LST over the Greenland and Antarctic Plateau: 2003-2015.”
- High performance computing experience analyzing large datasets including: Infrared Spectrometers - AIRS, IASI, CrIS, GOSAT Infrared Imagers – MODIS, Space-borne LIDAR – CALIPSO, CAVP, Dual-Regression, SNO, SONOs, Data Visualization - Matlab, McIDAS-V.

GIS IT Support Intern

June 2016 – August 2016, Alliant Energy

- Updated company maps of up-to-date company territory for internal use using ArcMAP and Adobe Illustrator.
- Assisted in migration of company GIS Information to new internal website.

Education

University of Wisconsin – Madison

Bachelor of Science: Major in Geographic Informational Sciences (GIS) and Cartography

Certificate in Environmental Science

Cumulative GPA – 3.25