

# Brian Bagley

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Portfolio: [bagl0025.github.io/portfolio/](https://bagl0025.github.io/portfolio/)

## SUMMARY

Full Stack Developer and U.S. Navy veteran with a background in geophysics, research, and scientific computing. Nine years experience managing the X-ray Computed Tomography Lab, mentoring students, and presenting complex topics to diverse audiences. Spent the past year working as a python developer on a team at the University of Minnesota providing support to researchers at NASA and Ohio State University. Highly organized, self-motivated developer seeking a position that allows me to use my programming skills and scientific background.

## TECHNICAL SKILLS

HTML5, CSS, jQuery, JavaScript, Node.js, Express.js, MySQL, NoSQL, React, Python, C, Matlab, Fortran, Bash, Linux, Model-view-controller architecture, and Agile development.

## PROJECTS

**E-Commerce Back End** | <https://github.com/bagl0025/E-Commerce-Back-End>

Role in Project: MySQL design and Express.js routes.

- E-Commerce Back end is an example of a basic commerce site back end.
- It uses MySQL to store data and Express.js to provide RESTful APIs.
- Tools/Languages: JavaScript, Node.js, Express.js, MySQL, and Sequelize.

**Priority Order Staging Tool** | [https://github.com/bagl0025/Priority\\_orders](https://github.com/bagl0025/Priority_orders)

Role in Project: Designed, tested, and deployed.

- Checks the daily ingest folder for catalog IDs in the priority order request.
- Gathers priority satellite data for the User Services team for processing prior to customer delivery. Run daily as a cron job and returns completion status to a user supplied email list.
- Tools/Languages: Python and Bash.

## EXPERIENCE

**University of Minnesota, Polar Geospatial Center**

April 2021 – March 2022

*Geospatial Developer* St. Paul, MN

- Collaborated with research groups at NASA to create mosaics from satellite imagery to be used in a machine learning project to search Earth for impact craters.
- Developed digital elevation models using the Blue Waters petascale supercomputer at the National Center for Supercomputing Applications.
- Worked with a 5 person developer team to maintain and create Python code used to process satellite imagery.
- Oversaw the daily flow of 10s of Terabytes of satellite data from Polar Geospatial Center to National Center for Supercomputing Applications and NASA Center for Climate Simulation.

**University of Minnesota**

May 2012 – April 2021

*Research Associate* Minneapolis, MN

- Managed the X-ray Computed Tomography Lab located in the Department of Earth and Environmental Sciences used by universities nationwide.
- Created image analysis techniques using Matlab and Python that allowed researchers and students to complete innovative research.
- Authored and Co-Authored over 20 peer-reviewed publications and conference presentations.
- Mentored to students and postdocs allowing them to accomplish their research goals and operate equipment independently.

**Pennsylvania State University**

June 2011 – May 2012

*Postdoctoral Scholar* State College, PA

- Analyzed and maintained the 10 station seismic network operated by Pennsylvania State University.
- Investigated seismic anisotropy in east Africa using custom programs written in C and Matlab.
- Earned a position on the 2011 United States Antarctic Program field team that serviced 35 seismic stations throughout west Antarctica.

**EDUCATION**

University of Minnesota, Minneapolis, MN

Full Stack Web Development Certificate

University of Minnesota, Minneapolis, MN

Ph.D. Geophysics

Texas A&amp;M University, College Station, TX

B.S Geophysics – Magna Cum Laude and Undergraduate Research Scholar

Minors in Geology and Mathematics