

Dakotah D. Maguire

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EDUCATION

Pennsylvania State University State College, Pennsylvania
B.S., Geography - Geographic Information Science May 2015

University of Tennessee, Knoxville Knoxville, Tennessee
M.S., Geography May 2022

Minors: Intercollegiate Graduate Statistics and Data Science
Interdisciplinary Graduate Minor in Computational Science

PROFESSIONAL EXPERIENCE

Oak Ridge National Laboratory Oak Ridge, Tennessee
National Security Sciences Directorate May 2019 – Present
Geospatial Data Engineer

- Created Python web parsers for collecting real time data (power outage and hazards) across multiple sources.
- Aided in designing and implementing a geospatial data platform for collecting environmental hazard data.
- Approximate String Matching for map analytics
- Designed and implemented a database for hazard data.
- Managed and cleaned parsed spatial data for use in geospatial platforms.
- Conducted daily maintenance of web parsers.
- Held weekly project meetings for project design and progress.

Oak Ridge National Laboratory Oak Ridge, Tennessee
National Security Sciences Directorate, Geoinformatics Engineering Group May 2017 – May 2019
Post-Bachelor's Research Associate

- Created Python web parsers for collecting real time electric utility outage information.
- Created daily reports on the status of web parsers and organized maintenance tasking.
- Conducted daily maintenance of web parsers.
- Trained Generative Adversarial Networks for generating synthetic training data for use in object detection and haze mitigation.
- Conducted a comparative study between multiple 3D imaging software programs.
- Collected and managed data for large scale stereo-reconstruction of elevation from remotely sensed imagery.

TerraSim Inc.
Terrain Development
GIS Analyst 1

Pittsburgh, Pennsylvania
June 2015 – January 2016

- Created 1:1 scale virtual environments of geographic locations.
- Digitized aerial imagery for use in 3D databases and virtual terrain generation.
- Software quality control and testing.
- Wrote technical software documentation (user’s manual and tutorial content).
- Delivered weekly project status reports.

Applied Research Laboratory
Synthetic Environment Application Lab (SEALab)
Intern

State College, Pennsylvania
May 2014 – May 2015

- Designed 1:1 scale environments for interaction with and analysis of high-volume geotemporal datasets.
- Integrated building models into environments for use in multiple advanced visualization hardware platforms, including 3D stereowalls and CAVEs (CAVE Automatic Virtual Environment).

Penn State University
Geoinformatics and Earth Observation Laboratory
Intern

State College, Pennsylvania
January 2015 – May 2015

- Planned flights and collected aerial video and imagery using 3D Robotics X8 UAVs.
- Processed videos, corrected distortions and georeferenced UAS Imagery.

TEACHING EXPERIENCE

University of Tennessee, Knoxville
Graduate Teaching Assistant (TA)

Knoxville, Tennessee
January 2019 – May 2021

- Duties included: Laboratory instruction, updating lab assignment content, creating instructional videos, holding office hours, aiding in lectures, grading labs and exams.

Pennsylvania State University
Teaching Intern (TI)

State College, Pennsylvania
August 2014 – May 2015

- Duties included: Aiding in lab creation, instruction and lectures

PUBLICATIONS/PRESENTATIONS

1. D. Maguire, S. Chinthavali, “EAGLE-I National Outage Map (NOM)” Proceedings of American Association of Geographers Conference, New Orleans, LA, USA April 2018.
2. ORNL Postdoc Symposium 2018 Poster Session EAGLE-I National Outage Map (NOM)”, Oak Ridge National Laboratory, Oak Ridge, TN, USA August 2018.

AWARDS & SERVICE

Other Services and Awards

Honor Societies: Gamma Theta Upsilon

Professional Societies: American Association of Geographers

Scholarships: Mary and Anthony Fiedorek Trustee Scholarship January 2013 – May 2015

John and Elizabeth Holmes Teas Scholarship January 2014 – May 2015

TECHNICAL SKILLS

Programming Languages: Python (PEP-8), R, SQL, HTML, JavaScript, Julia

Geographic Software: ArcGIS, QGIS, ENVI, LP360, TerraTools, VBS2, VBS3, Building Designer

Database Management: PostgreSQL, PostGIS, pgAdmin, Docker, Anaconda

Other Software: Git, L^AT_EX, Microsoft Office