

## Education

**M.A. Geography** — University of Colorado, Boulder, CO

GPA: 4.0

Advisor: Dr. Colleen Reid

Focus: Statistical Analysis, Climate Change, and Public Health

Thesis: *Forecasting Real-Time Heat-Related Mortality for U.S. Counties* (Title TBD)

Aug '17–May '19  
(Expected)

**B.A. Geography, Computer Science Minor, GIS Minor** — Virginia Tech, Blacksburg, VA

Departmental GPA: 3.94 • Overall GPA: 3.49 • GRE: 160 QR, 162 VR, 5.5 AW

Aug '13–May '17

**Advanced Studies Diploma** — Langley High School, McLean, VA

Jun 2013

## Research & Work Experiences

**Cooperative Institute for Research in Environmental Sciences (CIRES)** — Graduate Research Assistant, Boulder, CO

Use machine learning to estimate daily air pollution exposures across the western United States.

Jan '17–Present

**University of Colorado Department of Geography** — Graduate TA, Boulder, CO

**DigitalGlobe** — Data Science Intern, Herndon, VA

Used convolutional neural networks to detect objects in high resolution satellite imagery. Used Python, ELK stack, TensorFlow, Keras API

Aug '17–Dec '17

May '17–Dec '17

**Center for Geospatial Information Technology (CGIT)** — Geospatial Analyst, Blacksburg, VA

Develop Python modules for back-end geospatial web applications for research purposes. Full-stack development including environmental data acquisition via WMS/WCS requests to data modeling and visualization for soils, elevation, ecosystems, and ortho imagery.

Jan '16–May '16

**Virginia Tech Department of Geography** — Undergraduate TA, Blacksburg, VA

GEOG 2084: Principles of GIS (Fall 2016), GEOG 4084: Modeling in GIS (Spring 2017)

Aug '16–Dec '16

**National Oceanic and Atmospheric Administration** — Hollings Scholar, Silver Spring, MD

Worked on the National Integrated Heat and Health Information System (NIHHIS), a June 2015 White House Initiative. NIHHIS aims to mitigate societal impacts of extreme heat events. Conducted research, wrote literature review, created historical heat wave web application independently from start to finish (see [ginali.xyz/NIHHIS](http://ginali.xyz/NIHHIS)), presented work at symposium.

Jun '15–Aug '15

**Lockheed Martin** — Software Engineering Intern, Manassas, VA

Built workflow management software with 5 other full-time developers to facilitate managers in organizing and distributing work to employees easily. Use of Java, SOAP protocols, XML, UML, BPMN, web servers, and Git version control. Obtained Secret Security Clearance.

May '15–Aug '15

**Virginia Tech Department of Geography** — Undergraduate Research Assistant, Blacksburg, VA

Examined topographic correction methods in high resolution imagery using remote sensing. Used MATLAB, R, Linux OS, and GIS software, published by IEEE. Under the mentorship of Dr. Shao and Dr. Campbell of Virginia Tech's Geography Department.

Aug '14–Feb '15

**Dominion Resources, Inc.** — GIS Services Intern, Richmond, VA

Worked on Dominion Virginia Power geographic information system for distribution power lines. Use of ArcFM to edit symbology and map attribution with ESRI's Spatial and Network Analyst tools. Created

May '14–Aug '14

internal Microsoft SharePoint website for the team to display map galleries, interactive maps, user profiles, and contact information.

## Skills

Java, Python, ESRI ArcGIS, ENVI, ERDAS Imagine, PostgreSQL, MySQL, JavaScript, HTML, CSS, PHP, MATLAB, R, C, Amazon Web Server (AWS), Linux OS, Windows OS, full stack web development, mobile applications development (Android), GitHub, Elasticsearch, Logstash, Kibana, shell scripting, basic machine learning

## Publications

**Evaluation of Topographic Correction on Subpixel Impervious Cover Mapping with CBERS-2B Data** Aug 2015  
Shao, Y., Li, G., Guenther, E., Campbell, J.  
Published in IEEE Geosciences and Remote Sensing Letters (Vol. 12, Issue 8, Aug 2015)

## Honors & Awards

**27<sup>th</sup> Annual Virginia GIS Conference** – Virginia Association for Mapping and Land Information Systems 2017  
First Place Winner

**16<sup>th</sup> Annual AMS Student Conference** – American Meteorological Society 2017  
Outstanding Student Poster Presentation

**Science and Education Symposium** – National Oceanic and Atmospheric Administration 2016  
Outstanding Oral Presentation

**Ernest F. Hollings Scholarship** – National Oceanic and Atmospheric Administration (NOAA) 2015

**William Carter Memorial Scholarship** – Virginia Tech College of Natural Resources and the Environment 2015

**Virginia GIS Conference Third Place** – Virginia Association for Mapping and Land Information Systems 2014  
Third Place Winner

**GeoLeague Team Challenge Second Place** – American Society of Photogrammetry and Remote Sensing 2014

**International Science and Engineering Fair (ISEF) Finalist** – Intel 2012

## Presentations

**2017 Virginia GIS Conference Presenter** – Virginia Association for Mapping and Land Information Systems, Blacksburg, VA Apr 2017  
“A Novel Web Application to Analyze and Visualize Extreme Heat Events”

**2017 AMS Student Conference Presenter** – American Meteorological Society, Seattle, WA Jan 2017  
“A Novel Web Application to Analyze and Visualize Extreme Heat Events”

**2016 AGU Fall Meeting Presenter** – American Geophysical Union, San Francisco, CA Dec 2016  
“A Novel Web Application to Analyze and Visualize Extreme Heat Events”

**2014 Virginia GIS Conference Presenter** – Virginia Association for Mapping and Land Information Systems, Blacksburg, VA Apr 2014  
“Northern Virginia Urban Sprawl Analysis Using Landsat Imagery and Demographic Data”

**2014 ASPRS Conference** – American Society of Photogrammetry and Remote Sensing, Louisville, KY Mar 2014