

Robert Sterling Spencer, EIT

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(719) 331 - 7790

EDUCATION

Master of Science, Environmental and Water Resources Engineering

Expected Graduation: Dec 2016

University of Texas at Austin | GPA: 3.86

Bachelor of Science, Environmental Engineering

Graduated: Dec 2014

University of Colorado at Boulder | GPA: 3.42 | Dean's List (5)

RELEVANT WORK EXPERIENCE

NASA: Goddard Space Flight Center

Greenbelt, MD 20771

Jun 2016 - Present

Student Research Assistant (Aug 2016 – Present) | **Graduate Intern** (Jun 2016 – Aug 2016)

- Evaluating a satellite retrieval algorithm's quality assurance for atmospheric aerosols by performing geospatial and temporal collocations and exploratory data analysis with aircraft and ground-based instruments.
- Developing scripts to extract, sample, and visualize key areas from large and variegated scientific datasets.
- Aiding atmospheric scientists in characterizing the interactions and uncertainties between aerosols and clouds.

University of Texas Center for Research in Water Resources

Austin, TX 78705

Jan 2016 - May 2016

Graduate Research Assistant

- Developed planning and strategy maps for emergency responders in minor, moderate, and major flooding events.
- Predicted probable flooding depths and velocities at river crossings for road closures from a hydraulic model.

Institute of Arctic and Alpine Research

Boulder, CO 80303

May 2013 - Aug 2015

Antarctic Field Research Grantee

McMurdo Dry Valleys LTER, Antarctica

Dec 2014 - Feb 2015

- Procured climate and ecological data through stream flow measurements, land surveying, water quality sampling, and algal mass collection, while maintaining a network of hydrologic stream gauges in Antarctica.
- Lived and worked among a small efficient team while inhabiting Antarctica's extreme environments.

Undergraduate Research Assistant

- Rectified and published raw stream flow, rating curve, and water quality records for an online database.
- Developed a regression analysis to model synthetic hydraulic behaviors of a glacier-fed stream.
- Conducted sampling and tracer studies at various rivers and lakes within Colorado's watersheds.
- Assisted with preparing graduate research papers for publication through peer review sessions.

RELEVANT VOLUNTEER EXPERIENCE

Engineers Without Borders, University of Colorado's Nepal Team

Mar 2011 - May 2013

Project Design Leader (May 2012 – May 2013) | **Treasurer** (Dec 2011 – Dec 2012)

- Effectively provided clean drinking water to a developing community of over 200 Nepali people by designing and constructing a protection system and tap stand for a fresh water spring.
- Ensured sustainability of a water treatment system for a hospital in Nepal by composing an O&M plan.
- Collected, compiled, and assessed land survey data and performed water quality tests on spring sources.
- Obtained approval to implement technical design plans through collaboration with licensed engineers.
- Documented health and safety forms pertaining to site and travel safety.
- Developed strong relationships with the community by participating in user group and municipality meetings.
- Successfully maintained an annual budget of approximately \$100,000 by managing withdrawals and spending.
- Secured funding through writing grant proposals, organizing fundraiser events, and presenting to rotaries.

Skills: Algorithm Development | Spatiotemporal Data Analysis | Data Visualization | Uncertainty Modeling | Systems Modeling | Multiobjective Optimization | L/NL Programming | Monte Carlo Simulation | Bayesian Inference | Neural Networks | Decision Trees | Hypothesis Testing | Machine Learning | Data Management | Cost-Benefit Analysis

Tools: Python | ArcGIS | AnyLogic | SAS | SQL | R | Bash | GAMS | LaTeX | Github | Matlab | VBA | Adobe CS | HTML

Courses: Decision, Risk, and Reliability | Sustainability & Renewable Energy | Geographical Information Systems | Urban Systems Engineering | Water Resources Mgmt. | Sampling & Analyses | Heat Transfer | Thermodynamics | Applied Statistics | Applied Ecology | Engineering Processes | Regression Analysis | Fluid Mechanics

Other Activities and Affiliations

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| • Freelance Private Tutoring for all levels of STEM topics | Aug 2015 – Present |
| • American Geophysical Union | Aug 2016 – Present |
| • American Water Works Association – Rocky Mountain Region | Oct 2011 - Present |
| • Society of Environmental Engineers | Aug 2011 - Dec 2014 |

Awards and Honors

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| • NASA Goddard Student Poster Session Swoosh Award – 1 st Place | 2016 |
| • NSF's Antarctica Service Medal of the United States of America | 2015 |
| • RMWEA/RMSAWWA Student Design Competition – 2 nd Place | 2014 |
| • Engineers Without Borders – Chapter of the Year Award | 2012 |
| • Art Institute Scholarship – 2 nd Place | 2009 |

References available upon request

My GitHub homepage URL: [RSpencer019.github.io](https://github.com/RSpencer019)