WILLIAM J. RASEMAN, EI

Civil engineer, software developer, and data scientist

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EXPERIENCE

Graduate Research Assistant

University of Colorado Boulder

2015 – Ongoing Boulder, CO

- Developing multi-objective optimization approaches to generate cost-effective and resilient water treatment operating policies
- Analyzing water quality data from water utilities across the nation to generate realistic water quality scenarios, including extreme events

Country Director

SPOUTS of Water—Social Enterprise & Affordable Filter Manufacturer

2014 – 2015 Kampala, Uganda

- Constructed ceramic water filter factory for national-scale production
- Managed 14 employees tasked with production and testing of filters

PROJECTS

EPA Software Development

2018 – Ongoing Boulder, CO

- Updated Water Treatment Plant Model, improving organic carbon removal and disinfection byproduct (DBP) modeling
- Modernizing the Surface Water Analytical Tool for upcoming Six-Year Review of DBP regulations

Parasol: Interactive Visualization Software Library

2017 – Ongoing Boulder, CO

https://github.com/ParasolJS/parasol-es

A toolbox for developers to create sharable, interactive visualizations for high-dimensional datasets used in environmental decision making.

PUBLICATIONS

- **Raseman, WJ**, et al. "Nearest Neighbor Time Series Bootstrap for Generating Influent Water Quality Scenarios" (under review)
- Clarkin, T, et al. "Diagnostic Assessment of Preference Constraints for Simulation Optimization in Water Resources." Journal of Water Resources Planning and Management 144, no. 8 (2018).
- Stewart, JR, et al. "A Multialgorithm Approach to Land Surface Modeling of Suspended Sediment in the Colorado Front Range." Journal of Advances in Modeling Earth Systems 9, no. 7 (2017).
- **Raseman, WJ**, et al. "Emerging Investigators Series: A Critical Review of Decision Support Systems for Water Treatment: Making the Case for Incorporating Climate Change and Climate Extremes." Environmental Science: Water Research & Technology 3, no. 1 (2017).

PROGRAMMING

R	●●●●○
C/C++, Visual C#	●●●○○
JavaScript, HTML, CSS	●●○○○
Python, Matlab, Shell	●●○○○
Databases: SQL, Access	●●○○○

where dark circles denote level of expertise

EDUCATION

Ph.D. in Civil Engineering

University of Colorado Boulder

Aug 2015 – May 2019

Thesis: Improved decision support for water treatment plant operations

GPA: 4.0, **Emphasis**: Water Resources

B.Sc. in Civil Engineering

University of Notre Dame

Aug 2010 – May 2014

GPA: 3.8, **Emphasis**: Env. Engineering

AWARDS

Tau Beta Pi and Chi Epsilon
Member (Eng. Honor Societies)

NSF Grad Research Fellowship
Honorable Mention

Cum Laude
University of Notre Dame

HOBBIES

climbing, running, hiking, skiing
singing, piano, guitar, song-writing
cooking open source programming