

Amanda Worthy

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Research Interests Urban Building Energy Performance, Machine Learning, Air Quality, Geospatial Data Analysis

Education **University of Washington** Seattle, WA
Ph.D. in Civil Engineering, Data Science Option Sep 2021 – Present
Advisor: Dr. Narjes Abbasabadi, *GPA: 3.94*.

University of Washington Seattle, WA
M.Sc. in Civil Engineering Sep 2020 – Aug 2021
GPA: 3.92

University of Colorado Boulder, CO
B.Sc. in Environmental Engineering Aug 2016 – May 2020
Applied Math Minor - Statistical Emphasis
Mentor: Dr. Michael Hannigan, *GPA: 3.75, Cum Laude*

Awards Clean Energy Institute Graduate Fellow 2024-2025
International Research Exchange for Students Cohort Participant (NSF) 2023-2024
Herbold Data Science Fellow 2021-2022
Valle Scandinavian Exchange Fellow 2021-2022
UW Graduate School Travel Award 2023
UW Graduate and Professional Student Senate Travel Award 2023

Publications **Addressing the simulation-to-reality gaps: A comprehensive review of the datasets, tools, and methodologies used for integrating microclimates into urban building energy models (UBEMs)**, Worthy A., Ashayeri M., Marshall J., Abbasabadi N., *Building and Environment*, in review.

Posters and Presentations **Sustainability Tank Presentation: Assessing the impact of microclimates on Urban Building Energy Models and their implications with equity**, Worthy A., Ashayeri M., Abbasabadi N., *9TH ASTFE Thermal and Fluids Engineering Conference*, Corvallis, OR, 2024.

Leveraging earth observational data to assess the impact of microclimates on Urban Building Energy Models (UBEMs): A data-driven case study in Seattle, Washington, Worthy A., Ashayeri M., Abbasabadi N., *NSF Workshop: Re-thinking the Relationship between Built Environment Conditions and Health and Well-being in Changing Climatic, Social, and Technological Contexts*, Tokyo, JP, 2024.

The influence of outdoor temperature on Norwegian swimming hall energy consumption, Worthy A., Andresen I., Carlucci S., Aas B., *10th International Conference on Swimming Pools and Spas*, Bologna, IT, 2023

Field investigation of wind speeds in suburban terrain, Worthy A., Wang S., Estephan J., Irwin P., Chowdhury A., Lyman G., Reed D., *14th Americas Conference on Wind Engineering*, Lubbock, TX, 2022

Investigation of Wind-Induced Dynamic Effects on Rooftop Solar Arrays, Estephan J., Wang S., Worthy A., Chowdhury A., Irwin P., Reed D., Chen D., Lyman G., *14th Americas Conference on Wind Engineering*, Lubbock, TX, 2022

Research Experience **Norwegian Institute of Science and Technology** Trondheim, NO
Visiting Valle Scholar Apr 2022 - Sep 2022
Mentors: Bjørn Aas, Dr. Salvatore Carlucci

Kyushu University Fukuoka, JP
NSF International Research Exchange for Students Cohort Participant Summer 2023

Teaching Experience **Teaching Assistant, University of Washington**
ARCH 508: Research Studio, AI in Performance-driven Design Spring 2024
CSE 412: Introduction to Data Visualization Winter 2024
CSE 442: Data Visualization Autumn 2023
CSE 412: Introduction to Data Visualization Spring 2023

Course Assistant, University of Colorado
APPM 4570: Statistical Methods in R Spring 2020
APPM 4570: Statistical Methods in R Spring 2019
MCEN 2023: Statics and Structures Fall 2018

Industry Experience **US Environmental Protection Agency, Region 8** Denver, CO
Applied Science Intern Summer 2019
Performed time-series analysis on seep and springs water quality data collected adjacent to a uranium mill. Identified sites with analyte abnormalities and focus areas for remediation.

Skills **Programming:** Python (pandas, geopandas, numpy, Scikit-learn, Xarray, rasterio), R, JavaScript, Google Earth Engine, Vega-Lite, Tableau, Bash, Git

Relevant Coursework: Geospatial Data Analysis, Machine Learning, Data Visualization, Engineering Computing, Beautiful Graphics in R, Data Analysis for Water Sciences, Technology for Conservation

Leadership Service **Sponsorship Coordinator and Board Member**, Alpine Club at CU Aug 2017 - May 2020
Peer Mentor, CU Environmental Engineering Department Aug 2019 - May 2020
AVID Tutor, Boulder High School Jan 2019 - May 2019
Statistics and R Tutor, CU Leeds School of Business Aug 2019 - May 2020

Hobbies I enjoy nordic ski racing, backcountry skiing, rock climbing, and swimming.