

## Anna Neufeld

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<b>Contact Information</b>	Department of Statistics University of Washington Padelford B-222 Seattle, WA, 98195	aneufeld@uw.edu <a href="https://anna-neufeld.github.io">https://anna-neufeld.github.io</a>
<b>Education</b>	<b>University of Washington</b> , Seattle, Washington. Statistics PhD Student	2018-Present
	<b>Williams College</b> , Williamstown, MA BA in Mathematics (Highest Honors) and Computer Science. <i>Summa Cum Laude</i> , GPA 4.04.	2014-2018
<b>Research Experience</b>	<b>Research Assistant (University of Washington)</b> <ul style="list-style-type: none"><li>• Advisor: Daniela Witten</li><li>• Developing a selective inference framework for constructing valid hypothesis tests and confidence intervals for within-region means or differences in means across splits in regression trees.</li></ul> <b>Williams College Undergraduate Honors Thesis</b> <ul style="list-style-type: none"><li>• Advisor: Brianna Heggeseth</li><li>• Proposed using longitudinal regression trees to study the impact of early exposure to environmental pollutants on the shape of body mass index trajectories later in life. After developing novel evaluation metrics to measure the “shape-based” accuracy of a tree, developed a spline projection method that groups individuals by the shape of their individual trajectory while ignoring the level of their trajectory.</li></ul> <b>SMALL Research Experience for Undergraduates</b> <ul style="list-style-type: none"><li>• Advisors: Julie Blackwood and Lauren Childs</li><li>• Used compartmental differential equation models to quantify the relative contributions of sexual transmission and vector transmission in the spread of the Zika virus.</li></ul>	2020-Present  2017-2018  Summer 2016
<b>Teaching Experience</b>	<b>Visiting Lecturer</b> Williams College Department of Computer Science <ul style="list-style-type: none"><li>• Co-instructing CS 374T, Machine Learning, with Prof. Andrea Danyluk</li><li>• Tutorial style course (modeled after Oxford University tutorials), which involves meeting with two students at a time. 10 total students enrolled in the course.</li></ul> <b>Instructor of Record</b> University of Washington Department of Statistics <ul style="list-style-type: none"><li>• Stat 311: Elements of Statistical Methods</li><li>• ~60 students</li></ul> <b>Head Teaching Assistant</b> University of Washington Department of Statistics <ul style="list-style-type: none"><li>• Stat 311: Elements of Statistical Methods</li></ul>	Spring 2021    Summer 2019  Autumn 2019, Winter 2020

- Developed lab assignments, maintained lab website, helped write assignments and exams, served as liaison between professor and other TAs.
- ~180 students total.
- Led two lab sections of 30 undergraduates each.

### Graduate Teaching Assistant

2018-2020

University of Washington Department of Statistics

- Stat 311: Elements of Statistical Methods (Autumn 2018, Spring 2020)
- Stat 423: Applied Regression and Analysis of Variance (Winter 2019)
- CSE/Stat 416: Introduction to Machine Learning (Spring 2019).
- Responsible for lab sections of around 30 undergraduates each. Also held office hours and graded assignments.

### Undergraduate Teaching Assistant

September 2015 - May 2018

Williams College Departments of Computer Science, Mathematics, and Statistics

- Data Structures and Advanced Programming (Fall 2015), Linear Algebra (Spring 2016, Spring 2017), Abstract Algebra (Fall 2016), Regression and Forecasting (Fall 2017, Spring 2018)
- Duties included grading homework, holding office hours, and running review sessions.

### Workshop Leader

January 2018

Williams College Office of Academic Resources

- Worked with a group of undergraduates and the Office of Academic Resources to pilot a new program of coding workshops
- Taught a series of workshops in R to undergraduates from a variety of departments and graduate students from the Center for Development Economics.

### Peer Tutor

2016-2018

Williams College Office of Academic Resources

- Nominated by faculty to serve as a peer tutor. Held one-on-one and drop-in tutoring sessions for microeconomics, macroeconomics, calculus, linear algebra, real analysis, statistics, and computer science.
- Also worked one on one with biology research students who needed help conducting data analysis in R.

### Publications

**Neufeld, A.** and Witten, D. (2021). Discussion of Breiman's "Two Cultures": From Two Cultures to One. To appear in *Observational Studies*.

Maxian, O\*, **Neufeld, A.\***, Talis, E. J.\*, Childs, L. M., & Blackwood, J. C. (2017). Zika virus dynamics: When does sexual transmission matter?. *Epidemics*, 21, 48-55. (\* denotes equal contribution)

### Contributed Conference Presentations

Brianna Heggeseth\* and **Anna Neufeld**. Longitudinal Regression Trees: An Application to Environmental Exposure and Growth. In *Joint Statistical Meetings*, Vancouver, BC, August 2018.

Emma J. Talis\*, Ondrej Maxian, and **Anna Neufeld**. Understanding Zika Dynamics: Sex, Mosquitoes, and Gender. In *Joint Mathematics Meetings*, Atlanta, GA, January 2017.

<b>Software</b>	<b>splinetree: longitudinal trees and forests using a spline projection method</b> R package. Available from github and CRAN.	
<b>Professional Experience</b>	<b>Cogo Labs, Cambridge, MA</b> Data Analytics Intern	June 2017-August 2017
	<ul style="list-style-type: none"> <li>Worked with a team of engineers, designers, and analysts to build and market a website. Analyzed market data with SQL, analyzed site performance with google analytics and piwik, and assisted with backend web development in python.</li> </ul>	
<b>Honors and Awards</b>	<b>University of Washington</b>	
	2021 Nominated for Excellence in Teaching Award	<i>Center for Teaching and Learning</i>
	2020 Dorothy M. Gilford Excellence in Teaching Award	<i>Department of Statistics</i>
	<b>Williams College</b>	
	2018 W. Marriott Canby Athletic Scholarship Prize (for highest standing in scholarship among senior varsity athletes)	
	2018 Robert M. Kozelka Prize in Statistics	
	2018 Sigma Xi Scientific Honor Society	
	2017 Phi Beta Kappa National Honor Society	
	2016-2018 New England Small Colleges Athletic Conference (NESCAC) All-Academic team	
	2016-2018 Clare Boothe Luce Fellowship	
	2016 Erastus C. Benedict First Prize in Mathematics (presented to outstanding sophomore)	
<b>Mentoring</b>	<b>University of Washington Undergrad Directed Reading Program (DRP)</b>	
	<ul style="list-style-type: none"> <li>Co-founded a program that pairs undergraduates with PhD student mentors for independent studies. Modeled after successful Directed Reading Programs (DRPs) in mathematics departments at several universities. More information can be found at our website.</li> <li>Served as a graduate student coordinator for 2020-2021. Have managed admissions, recruitment, and scheduling for over 30 undergraduate research projects.</li> <li>Served as a mentor for the following undergraduate projects: <ul style="list-style-type: none"> <li>Winter 2020, Christina Nick, Statistical Natural Language Processing</li> <li>Spring 2020, Rachael Ren, Infectious Disease Modeling with Differential Equations. See project writeup and presentation.</li> <li>Autumn 2020, Harper Zhu, Infectious Disease Modeling on a Network. See presentation and shiny app.</li> </ul> </li> </ul>	
<b>Service</b>	<ul style="list-style-type: none"> <li>Reviewer for <i>Statistical Science</i>.</li> <li>UW Statistics Graduate Student Representative (paid position that involves attending faculty meetings, serving on committees, and planning orientation for new students). 2020-2021.</li> <li>First round reviewer for PhD Admissions, 2020-2021.</li> <li>UW Statistics Diversity, Inclusion, Community, and Equity (DICE) Committee, 2019-2021. Currently managing the new K-12 outreach subcommittee.</li> <li>Chair of the UW Statistics Fun Committee, 2019-2020.</li> </ul>	

- Organizer and Founder: Statistics Education Reading Group, 2019-2020.

#### **Other Activities**

- Competed for the varsity swim and dive team at Williams College from 2014-2018. Our team won the NESCAC (New England Small Colleges Athletic Association) championship and placed between 2nd and 4th nationally among NCAA Division 3 teams in each of these four years. As a senior, was selected by teammates and an alumni committee as the first female winner of the Nate Krissoff award, which recognizes purpose, dedication, and inspiration to fellow athletes.
- Trip leader (2015), leader trainer (2016), and director of transportation and logistics (2017) for the Williams Outdoor Orientation for Living as First-years (WOOLF).
- Williams College Great Ideas Committee (managed a budget of \$10,000 per year to implement improvements to undergraduate life), 2015-2017.
- Williams College Committee on Undergraduate Life (committee consisted of students, faculty, and staff), 2015-2016.