

## **JOSHUA R. NUGENT**

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### **SUMMARY OF CORE QUALIFICATIONS AND SKILLS**

Graduate student in Biostatistics focusing on research in cluster randomized trials, machine learning, and causal inference. Before that, eight years as an innovative math teacher working with diverse high school students of all ages and ability levels, committed to helping all students develop strong math, reasoning, problem solving, and communication skills, and connecting their experience with social justice work and real-world applications. Strong background in the social sciences. Excellent collaboration, conflict resolution, and communication skills.

### **EDUCATION**

PhD\*, Biostatistics, University of Massachusetts, 2018 - 2022\* (\*anticipated).

M.Ed. Secondary Mathematics Education, University of Massachusetts, 2014.

A.B. Urban Studies, Brown University, 2003.

Study abroad at the Universidad de las Américas, Puebla, Mexico, Spring 2002.

### **RESEARCH AND WORK EXPERIENCE**

Graduate Research Assistant, University of Massachusetts Amherst, Department of Biostatistics and Epidemiology, September 2018 - present

Investigated bias in GLMM fitting algorithms (paper in process) and Type I error control in small sample CRTs (paper under review), assisted with development of **clusterPower** R package for sample size calculation under complex trial designs, investigated causal effects of pre-exposure HIV prophylaxis using propensity score matching (paper under review), designed discrete choice experiments to maximize family planning service uptake.

Mathematics Teacher, Amherst Regional High School, September 2010 – June 2018

Taught students in all grades at the AP, honors, college prep, and developmental level. Updated curricula, planned and executed lessons, assessed student work, communicated with parents about student progress. Led on-site professional development courses for colleagues focused on differentiated instruction. Worked with the department head to lead the transition to a discovery- and problem-based core curriculum. Worked with the principal on assessment modernization initiatives. Contributed to the development curriculum focused on issues of social justice and social-emotional learning and developed new discovery-based Statistics II course. Advised the Women's Rights Club as they prepared the "Consent Week" peer education event. Coached the national championship-winning girls varsity Ultimate Frisbee team from 2010 - 2016.

Ombuds Assistant, University of Massachusetts Amherst, September 2009 – August 2010

Fielded and investigated complaints from various members of the University community, resolved conflicts and mediated disputes between faculty and students, oversaw academic honesty and academic grievance hearings, referred students to appropriate campus resources, oversaw the implementation of a new web site, led on-campus outreach.

Director, Peace from A to Z After-School Program at P.S. 24, September 2006 – June 2008

Oversaw all facets of a 350-student, 45-staff member after-school program at a public elementary school in Brooklyn, NY. Hired and trained staff, oversaw curriculum development in the arts, conflict resolution, and social justice, generated reports and data for funding agencies, communicated with families and teachers regarding students' academic

and social-emotional progress, coordinated closely with the school administration to set goals and resolve problems, arranged for continuing professional development for staff, assisted in writing grant applications, led budgeting process, kept program in compliance with local, state, and federal reporting requirements and regulations, successfully led program through severe financial crisis in my first months as director.

## **RESEARCH INTERESTS**

Causal inference, cluster randomized trials

## **PUBLICATIONS UNDER REVIEW**

1. Nugent, J. and K. Kleinman (2019). *Type I error control for cluster randomized trials under varying small sample structures*.

## **EDITORIAL SERVICE**

Referee for *The International Journal of Biostatistics* (1).

## **UNIVERSITY SERVICE**

University of Massachusetts - Amherst, Department of Biostatistics and Epidemiology

Graduate Student Representative, Fall 2019 - Spring 2020

Served as liaison between graduate students and faculty. Helped troubleshoot student problems and make suggestions for programmatic improvement. Worked with faculty and students to improve recruitment of diverse incoming students.

## **UNIVERSITY TEACHING**

University of Massachusetts

Teaching assistant for Dr. Scott Chasan-Taber, Public Health 223: Introduction to Biostatistics, Fall 2018 - present.

Delivered one lecture a week, held office hours, and provided assessment and feedback. Worked to make the curriculum accessible to all students, regardless of the statistical sophistication they had upon entering the course.

## **WORKSHOPS AND PRESENTATIONS**

*Math Education in the Age of IMP*, Amherst College, February 2017.

Interactive presentation on the philosophy of modern Standards-based secondary math curricula to pre-service teachers.

*Improving Instruction for Graduate-Level Classes*, University of Massachusetts, scheduled January 2020.

Interactive workshop on high-leverage changes faculty can make in their classroom routines to improve student learning in small-to-mid-size graduate-level classes.

## **MISCELLANEOUS**

Software Expertise: R

Software Proficiency: Stan, SAS, Python, Stata, Java

Language Proficiency: English, Spanish