

SUMMARY

PhD Candidate in **Social Research Methodology** from the **Graduate School of Education**, my research is aimed at identifying legitimate objective conclusions of human behavior through data driven observations

Research Interests (Applied Statistics): Multilevel Modeling, Linear Regression, Causal Inference, Factor Analysis, Machine Learning, Item Response Theory, Structural Equation Modeling, Data Visualization, Geo Spatial Analysis

RELEVANT WORK EXPERIENCE

Data Scientist,**UC Berkeley Fung Institute of Engineering***August 2019 – May 2020*

Roles and Responsibilities

- Measured impact of the Masters of Engineering program highlighting key outcomes and performance metrics
- Developed prediction model to estimate student's success in program using test scores and demographics
- Coordinated with stakeholders, communicating results to the board in weekly meetings

Research Lead, UC Berkeley Center for Entrepreneurship & Technology*August 2018 – July 2019*

Roles and Responsibilities

- Spearheaded all research initiatives at the center, collaborated with professors, mentored students
- Built instruments to measure innovation, grit & *emotional quotient*, available on open source platform

Quantitative Researcher, University of California Berkeley

Project: Racial, Social and Educational Inequality in United States

2017 – present

- Analyzed patterns of racial & economic segregation of Latino kids in neighborhoods and schools in USA
- Developed an algorithm to do aerial interpolation of tract level variables on school district shape files
- Developed panel regression models to analyze change in segregation patterns
- Findings published in various journals, in *Washington Post*, featured in UC Berkeley *top research projects*.

Project: Assessing Learning Progressions in Science (NSF Funded)

2017 - 2018

- Developed a latent growth framework to measure learning progression of students in a large scale multidimensional assessment (~200,000 observations)
- Computed effect size, correlations, item fit, differential item functioning and reliability of the assessment.

Graduate Student Instructor Positions

- Data Lab, Berkeley (Fall 2020)
- Introduction to Empirical Analysis and Quantitative Methods, Political Science (Summer 2020)
- Data Analysis in Educational Research (Fall 2020)

Business Analyst, Hewlett Packard, Bangalore, India*2013 - 2015*

- Created an analytical model to determine impact of various training modules on sales rep performance
- Ensured effective tracking and implementation of sales program, marketing campaign, quota attainment & pipeline management for HP Enterprise Unit. Resulted in incremental yearly revenue of *\$80Mn*
- Created an affinity based tool to determine historic purchase trend enabling sales team to upsell several combinations of HP hardware products

EDUCATION

PhD Candidate in Quantitative Methods and Evaluation (3.93/4.00) Graduate School of Education, University of California, Berkeley	<i>2016-present</i>
Masters in Business Administration (8.3/10) Indian Institute of Technology, Delhi, India	<i>2011-2013</i>
BTech in Chemical Engineering (8.0/10.0) Heritage Institute of Technolog, Kolkata, India	<i>2007-2011</i>

SOFTWARE & LANGUAGE SKILLS

Proficient in : R, STATA, SQL, MPlus, MSOffice, Git

Familiarity in : Python, VBA, LaTeX, RMarkdown.

Languages: English, Hindi, Gujarati, Bengali

SCHOLARSHIPS

- Graduate School of Education Summer Research Award (2020)
- Leonard A. Marascuilo Scholarship awarded by University of California, Berkeley for distinguished academic record and promise as a scholar (2019)
- Leonard A. Marascuilo Scholarship awarded by University of California, Berkeley for distinguished academic record and promise as a scholar (2018)
- Professor K Patricia Cross Collaborative Scholarship awarded by University of California, Berkeley for showing interest in and promise as creative future leaders in teaching and learning. (2018)
- NIH Scholarship awarded by National Institute of Health to attend NIH SciEd Conference (2018)
- Incoming Student One-Year Departmental Fellowship awarded by University of California, Berkeley for a promising application. (2016)

PAPERS & PRESENTATIONS

1. (under final review) Fuller, B., Bathia, S., Bridhes, M., Galindo, C, Kim, Y. Local Variation in the Segregation of Latino Children -- Role of Place, Poverty, and Culture. American Journal of Education
2. Boda, PA, **Bathia, S**, Linn, MC. Longitudinal impact of interactive science activities: Developing, implementing, and validating a graphing integration inventory. Journal of Research in Science Teaching
3. Fuller, B., Kim, Y., Galindo, C., **Bathia, S**., Bridges, M., Duncan, G. J., & García Valdivia, I. (2019). Worsening School Segregation for Latino Children?. Educational Researcher, 48(7), 407-420.
4. **Bathia, S.**, Castro-Hernandez, E., Goyal, M., Ojala, A., F., Sidhu, I., (2019). Comparative Analysis of Innovation Capability: Examining Across Career Strata and Gender using Item Response Theory Approach. 2019 IEEE International Conference of Engineering, Technology and Innovation. 1-9.
5. Presentation, "Understand EQ". Stanford University. Invited to present my research on EQ at Professor Paul Li's Cognitive Science class (2019)
6. Seminar, "Developing Science Identity among Students." NIH SciEd Conference. Washington D.C. (2018)
7. Speaker, "Changing the world through Data". International Conference of Education, Indian Institute of Technology, Delhi. (also the youngest speaker to ever speak in this conference. (2016)
8. Presentation, "Technology Driven Assessments". IBM Thomas J Watson Centre, New York. (2015)
9. Guest Lecturer, "Theories and Concepts of Research Design", Indian Institute Of Technology, Delhi. (2015)

RELEVANT COURSEWORK

Hierarchical Linear Models, Linear Regression, Longitudinal Data Analysis, Causal Inference in Social Sciences, Introduction to Machine Learning, Introduction to Statistical Computing, Psychometrics and Item Response Theory, Survey Design, Research Methods Designs, Factor Analysis, Program Evaluation