

Gulsah Gurkan

Applied Statistician | Data Scientist | Psychometrician



EDUCATION

2021

PhD, Measurement, Evaluation, Statistics, and Assessment

Boston College

📍 Chestnut Hill, MA

Dissertation: "From OLS to Multilevel Multidimensional Mixture IRT: A Model Refinement Approach to Investigating Patterns of Relationships in PISA 2012 Data"

Committee: Henry Braun (chair), Matthias von Davier, Michael Martin, Zhushan Li

2011

Integrated BSc. & MSc., Teaching Physics

Bogazici University

📍 Istanbul, Turkey

(Dual Degree in Physics and Secondary School Science & Mathematics Education)



PROFESSIONAL EXPERIENCE

Present
|
March
2021

Kaplan North America

Psychometrician/Research Scientist

📍 Remote

- Leading and executing projects to evaluate the efficacy of online test preparation products on academic and career outcomes.
- Building statistical models to analyze user behavior and communicating recommendations to product leaders for improvement.
- Providing expert consultation on research design, psychometric analysis, and advanced statistical modeling.
- Developing programming to automate and streamline data processing, analysis, reporting, and quality assurance procedures.

February
2021
|
September
2020

Boston College

Graduate Statistical Consultant (Research Services)

📍 Remote

- Offered consultations and tutorials to faculty and students from various departments to support their statistical computing and quantitative research.
- Provided guidance for selecting methodologies, planning and performing quantitative data analysis, data management, and statistical computing.
- Analyzed data and reported findings from campus-wide surveys used to monitor trends and provide feedback about various campus programs.
- Developed programming to automate and streamline data cleaning and wrangling processes for annually published internal dashboards.

September
2020
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July 2020

uAspire

Chewning Research Fellow

📍 Remote

- Designed and executed research projects to examine the organization's impact on college affordability/access and advance their learning for further program development and implementation.
- Utilized data from multiple databases, conducted statistical analyses, and presented research findings to diverse audiences.

Summer
2020

Educational Testing Service

Research Intern

📍 Princeton, NJ

- Proposed project: The investigation of alternative RMSD statistics for international large-scale assessments. – *Canceled due to COVID-19.*

Contact

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🐦 [@Gulsah-G](https://twitter.com/Gulsah-G)

in [@GulsahGurkan](https://www.linkedin.com/in/GulsahGurkan)

Skills

Areas of Expertise

Quantitative methodology
Advanced statistical modeling
Statistical computing
Experimental design
Causal inference
Psychometrics
Survey design and research

Computing

Programming: R, Python, SQL
Statistical/Specialized: SPSS
Syntax, HLM, IRTPRO,
WINSTEPS, LISREL
Typesetting: Markdown

July 2020 September 2015	Boston College <i>Research Assistant (Center for the Study of Testing, Evaluation, and Educational Policy)</i> • Conducted quasi-experimental studies employing both longitudinal and cross-sectional data from complex survey designs. • Analyzed data using various procedures such as generalized linear models, multilevel models, cluster analysis, and inverse probability weighting. • Conducted psychometric analyses to develop and validate instruments measuring both cognitive and non-cognitive constructs. • Automated data analysis procedures and created parameterized reports in R and R Markdown to generate documentation shared with stakeholders. • Served as a teaching assistant for PhD level courses Multivariate Statistics and Psychometric Theory II – Item Response Theory.	📍 Chestnut Hill, MA
Summer 2019	Kaplan Test Prep <i>Psychometrician Intern</i> • Conducted an empirical simulation study and examined the feasibility and sustainability of automated test assembly methods to create user-tailored assessment products. • Developed an R package for automated test assembly (‘ata’ available on CRAN R repository). • Hosted a one-day workshop for Fordham University faculty and students on automated test assembly and R ata package.	📍 New York, NY
Summer 2018	New York City Department of Education <i>Data Analyst Education Pioneers Summer Fellow</i> • Built a dashboard to communicate the impact of a professional development program to 45 superintendents and 9 Field Support Centers in New York City. • Developed visuals in R displaying spatial data to geographically demonstrate participation rates in NYC districts.	📍 New York, NY
Summer 2017	Dublin City University <i>Research Associate</i> • Developed and validated a scale measuring students’ physical and emotional well-being. • Conducted psychometric analyses employing factor analytic approaches and Rasch modeling.	📍 Dublin, Ireland
June 2015 June 2012	Educational Volunteers Foundation of Turkey (TEGV) <i>Measurement and Evaluation Specialist</i> • Coordinated and executed measurement and evaluation studies to determine the effectiveness of more than 10 education programs across 30 cities in the underdeveloped provinces of Turkey. • Collected, analyzed, and reported data for the purposes of organizational monitoring.	📍 Istanbul, Turkey

SOFTWARE / STATISTICAL PACKAGES

- **Gurkan, G.,** Chajewski, M. (2020). ata: Automated test assembly. (Version 1.1.0). R software package: The R Project for Statistical Computing.

SELECTED PUBLICATIONS AND CONFERENCE PRESENTATIONS

- **Gurkan, G.,** Benjamini, Y., Braun, H. (2021). Defensible inferences from a nested sequence of logistic regressions: a guide for the perplexed. *Large-scale Assessment in Education*, 9(16). doi: 10.1186/s40536-021-00111-7
- **Gurkan, G.,** von Davier, M., Braun, H. (2020). Accounting for measurement error and clustering in cross-cultural assessment data. *Presentation given at the (Virtual) International Meeting of the Psychometric Society.*
- **Gurkan, G.,** Chajewski, M. (2020). Exploring online assessment personalization via automated test assembly. *Paper accepted to the annual meeting of the National Council on Measurement in Education, in San Francisco, CA.*