

MUHAMMET FURKAN KARAKAYA

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PROFESSIONAL SUMMARY

A political scientist specializing in comparative politics and American politics, with a focus on political parties, elections, representation, political campaigning, elite and mass political behavior, and party cohesion. Also highly skilled in data analysis and computational methods, with advanced proficiency in SPSS, SAS, STATA, R, Python, SQL, and other programming tools for social science research. My work applies quantitative and computational methodologies to investigate complex social and political phenomena, combining theory-driven inquiry with innovative research design. In addition to developing a dissertation on computational measures of party cohesion, I have taught computational methods for social science and served as a consultant to graduate students from diverse disciplines, guiding research design, statistical analysis, and coding strategies. My scholarship and teaching emphasize methodological rigor and interdisciplinary collaboration, advancing both the study and implementations of political science.

EDUCATION

Binghamton University, SUNY, Political Science Department

Doctor of Philosophy in Political Science

Binghamton, NY

Expected May 2026

Dissertation: "A Computational Approach to Party Cohesion: When Do Parties Use the Broad-Appeal Strategy in Different Party Systems?" with Dr. Robin Best

Cumulative GPA: 3.90/4.00 | Harpur College Graduate Investment Initiative Award (\$1,650), Richard I. Hofferbert Best Paper Award (\$1,250)

University of Delaware, Political Science Department

Master of Art in Political Science

Newark, DE

Aug 2019 - Aug 2021

Cumulative GPA: 3.80/4.00

Pennsylvania State University, The School of International Affairs

Master of Art in International Affairs

University Park, PA

Aug 2016 - Dec 2018

Marmara University, School of Economic and Administrative Sciences

Bachelor of Arts in Economics

Istanbul, Turkey

Sep 2008 - Jul 2012

TECHNICAL SKILLS AND RESEARCH INTERESTS

Software: SPSS, SAS, STATA, R Programming, Python, SQL, HTML, JavaScript, C++, LaTeX, NVivo

Research Methods: Machine Learning, Web Scraping, Data Mining, Extract Load Transform (ELT), Data Wrangling, Linear and Non-Linear Statistical Models, Geospatial Analysis, Sentiment/Textual Analysis, Decision Trees, Random Forest, Clustering, Deep Learning, Neural Network, Survey Experiments, A/B Testing, Big Data, Visualization, Data Storytelling

Competencies: Quantitative Research, Computational Social Science, Mix-Method Research, Statistical Analysis, Project Management, Experimental Survey Design, Data Integration, Data Analyst, Data Science, Business Analyst

Research Interests: Comparative Politics, Political Parties and Party Systems, Party Competition, Elections and Electoral Politics, Representation, Voting Behavior, American Politics, Research Methods

RESEARCH EXPERIENCE

Binghamton University, Public Policy Department

Research Assistant, Dr. Vincent Reitano

Binghamton, NY

Oct 2024 - Present

- Designed theoretical frameworks and data science methodologies to analyze adoption trends in online tax and fee payment systems across Georgia, U.S. municipalities
- Collected and analyzed Government Management Indicators Survey data using STATA and Python, generating visualizations, summary statistics, and statistical insights
- Constructed an automated data cleaning and analysis process, and contributed to multiple research papers as a co-author

Binghamton University, Decker College of Nursing and Health Sciences

Research Assistant, Dr. Lina Begdache

Binghamton, NY

Jan 2021 - Present

- Conduct research on mental health, motivation, and diet by analyzing large-scale survey datasets using STATA and R to identify factors influencing academic success
- Perform linear and non-linear regression analyses to explore under-researched variables and their correlation with student performance outcomes
- Developed an automated pipeline for data cleaning and analysis, contributing as a co-author to multiple academic research publications

Binghamton University, Department of Teaching and Learning and Educational Leadership

Research Assistant, Dr. Hyejung Kim

Binghamton, NY

Jan 2022 - May 2022

- Conducted comprehensive literature reviews on autism spectrum disorder diagnosis to identify racial discrepancies in early detection methods
- Co-authored a research paper, contributing to the literature synthesis and theoretical framework development

- Transliterated and cataloged 18th–20th century Arabic and Ottoman manuscripts, enhancing accessibility for academic researchers and digital archiving projects

PROFESSIONAL EXPERIENCE

Binghamton University, Graduate School **Binghamton, NY**
Research Consultant *Jan 2022 - Present*

- Advise 50+ graduate students each semester on research projects, providing guidance on statistical modeling, data analysis, and coding in Python, R, and other languages
- Design and deliver training workshops in collaboration with university departments, strengthening graduate student proficiency in research methods and technical tools
- Lead organizational and administrative communication between the Graduate School and academic departments to coordinate research support initiatives

Binghamton University, Political Science Department **Binghamton, NY**
Lecturer, PLSC 398: Social Data Analytics Using Python *Dec 2024 - Jan 2025*

- Designed and taught an undergraduate course on Python for data analysis in social sciences, with modules on data cleaning, visualization, and statistical modeling for structured and unstructured datasets
- Enhanced students’ ability to apply computational and statistical methods to real-world policy and research questions, preparing them for data-driven careers in political science and research

Binghamton University, Student Affairs Assessment and Solutions for Engagement **Binghamton, NY**
Data Analyst *Jan 2024 - Oct 2024*

- Built and optimized ETL pipelines to integrate multi-source datasets, improving efficiency and reliability of reporting processes
- Developed automated dashboards and reproducible visualizations in R programming and Python enabling data-driven decision-making for university administration

University of Delaware, Legal Studies **Newark, DE**
Graduate Assistant, Dr. Wayne Batchis *Jan 2020 - Mar 2020*

- Assisted in course preparation and curricular activities, supporting faculty in the development and delivery of legal studies coursework
- Coordinated communication between faculty and administrative offices, streamlining scheduling and program logistics

Pennsylvania State University, School of International Affairs **State College, PA**
Teaching Assistant, Cross-Cultural Conflict Resolution, Dr. Sophia McClennen *Jan 2019 – May 2019*

- Supported course delivery by assisting with lectures, facilitating discussions, and preparing instructional materials on cross-cultural conflict resolution

Pennsylvania State University, The Center for Global Studies **State College, PA**
Intern *Jan 2019 - May 2019*

- Supported federal and university grant reporting and evaluation through research and data entry
- Assisted in promoting programs and co-sponsored events to increase student and community engagement

ILEM (Istanbul Scientific Studies Association) **Istanbul, Turkey**
Teaching Assistant, Middle Eastern Politics *Feb 2014 - May 2014*

- Assisted Dr. Ahmet Uysal in the Advanced Studies Program by supporting course instruction, preparing materials, and facilitating classroom activities

Mesut Kabataş Licensed Financial Advisory and Accountant (SMMM) **Istanbul, Turkey**
Accountant Intern *Sep 2008 - Sep 2012*

- Processed tax and insurance information using ETA software, Microsoft Excel, and Word
- Assisted clients with official tax and insurance documentation, and prepared correspondence for new company registrations and compliance procedures

PUBLICATIONS

REFEREED JOURNAL ARTICLES

- Begdache, L., Ahmed, E., Malik, S., & **Karakaya, M. F.** (2023). Dental anxiety and its association with dietary intake and food groups: A cross-sectional study. *Dentistry Journal*, 11(10), 240.
- Kim, H., **Karakaya, M. F.**, Skinner, M., & Baker, D. (2025). A systematic literature review of racial disproportionality in autism in the US. *Journal of Autism and Developmental Disorders*, 55(3), 1010–1030.

WORKS IN PROGRESS

- Karakaya, M. F. (in preparation). A computational approach to party cohesion: When do parties use the broad-appeal strategy? An ethnic party from Turkey
- Karakaya, M. F. (in preparation). How do parties implement broad-appeal strategies in U.S. congressional elections?
- Karakaya, M. F. (in preparation). A Computational Measurement for Party Cohesion: Ideological Congruence Score of Electoral Candidates
- Jones, P. A., Karakaya, M. F., & Reitano, V. (under review). Examining the evolution of online tax and fee payment systems. Submitted to International Journal of Public Administration
- Karakaya, M. F. (in preparation). Effects of co-ethnic terrorism on ethnic voting: Kurdish voters in Turkey
- Karakaya, M. F. (in preparation). Party vote share and cost of voting: The 2020 House of Representatives election.

PRESENTATIONS & POSTERS

- 2024 “How do Parties Implement Broad-Appeal Strategies in U.S. Congressional Elections?” with Robin Best at the 120th American Political Science Association (**APSA**) Annual Meeting
- 2024 “A Computational Approach to Party Cohesion: When Do Parties Use the Broad-Appeal Strategy? An Ethnic Party from Turkey” with Robin Best at the 81st Midwest Political Science Association (**MPSA**) Annual Meeting
- 2023 “Graduate Academic Coding and Statistical Consultancy Introduction Talk” Graduate Student Orientation Meeting, Binghamton University
- 2023 “Suppression Effects of Natural Disasters on Voter Turnout: COVID-19 and the 2020 United States Presidential Primary Elections” The International Conference on Disaster Management: Global Pandemics and Their Impact at Binghamton University.
- 2023 “Python in One Hour”
Graduate Academic Coding and Statistical Consultancy Workshop, Binghamton University
- 2023 “Online Jungle – Finding a Coding Community on the Internet”
Graduate Academic Coding and Statistical Consultancy Workshop, Binghamton University
- 2022 “Python for Beginners” with Sanket Rathod
Graduate Academic Coding and Statistical Consultancy Workshop, Binghamton University
- 2022 “Coding World: Tools and Languages” with Sanket Rathod
Graduate Academic Coding and Statistical Consultancy Workshop, Binghamton University
- 2022 “Conducting a Statistical Project with STATA and R Programming.”
Graduate Academic Coding and Statistical Consultancy Workshop, Binghamton University

SPECIALIZED EDUCATION

University of Pennsylvania

English Language Programs Participant

Philadelphia, PA

Oct 2014 - Oct 2015

- Completed an intensive academic English program with seminars on Western and American culture, society, and politics

Qasid Arabic Institute

Arabic Language Center

Amman, Jordan

May 2014 - Aug 2014

- Completed an intensive Arabic language immersion program with seminars on Middle Eastern politics, culture, and society