

Davut Emrah Ayan

Associate Director, Marketing Sciences

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Summary:

Experienced professional with over 7 years of expertise in data science and economic research, spanning the entire research life cycle. Proficient in statistics, econometrics, and hands-on experience with machine learning and causal models. Highly organized, detail-oriented, and motivated, with a strong background in economics and business intelligence.

Education:

Ph.D in Economics, University of Kansas, Kansas, United States (Aug 2012 - Jul 2016)

M.A. in Economics, University of Kansas, Kansas, United States (Aug 2011 - Jul 2013)

B.A. in Industrial and Systems Engineering, National Defense University (Sep 2003 - Aug 2007)

Technical Skills:

* Programming Languages: **R, Python, Spark, MLlib, STATA, SQL, HTML, Git**

* Big Data Tools: **Databricks, AWS**

* Advanced Causal Inference Methods: **Difference-in-Differences, Instrumental Variables, Synthetic Control, Regression Discontinuity, Propensity Score Matching, Inverse Probability Weighting (IPW)**

* Agile Software Development Methodologies (Jira)

* Machine Learning: **Logistic Regression, Natural Language Processing (NLP), Naïve Bayes, Decision Trees, Random Forests, Gradient Boosting, A/B Testing, Time Series Forecasting, Factor Analysis, Principal Component Analysis, Cluster Analysis**

Work Experience:

Associate Director, Marketing Sciences, Horizon Media (Mar 2022 - Present)

* Conducted descriptive and exploratory statistics to understand audience and target consumers.

* Utilized supervised and unsupervised machine learning methods to predict business outcomes.

* Performed post-campaign performance analysis on consumer behaviors using causal inference models.

* Applied sample balancing, weighting, and weighted random sampling based on selected features to enhance insights.

Postdoctoral Researcher, IPSR, University of Kansas

Feb 2021 - Mar 2022

- * Conducted data extraction, manipulation, and analysis, employing advanced statistical techniques, ETL (Extract, Transform, Load), and EDA (Exploratory Data Analysis) processes.
- * Collaborated on data analysis projects, extracting meaningful insights from extensive datasets by applying advanced causal inference models.
- * Developed a next-word prediction algorithm using data mining and Natural Language Processing (NLP) methods, contributing to the advancement of language modeling and predictive analytics.

Economist, Ministry of Defense, Turkey

Sep 2016 - Dec 2020

- * Conducted data analysis, extracting valuable insights and developing Decision Support Models that empowered decision-makers with enhanced understanding of operational challenges, facilitating more informed and analytical decision-making.
- * Specialized in risk analysis for disaster and emergency management within the Ministry of Defense, providing critical expertise to support strategic planning and preparedness efforts.

Publications:

Ayan, D, Haak, L, Ginther, DK. How many people in the world do research and development? Global Policy, 2023. <https://onlinelibrary.wiley.com/doi/full/10.1111/1758-5899.13182>

Ginther, DK, **Ayan, D**, Slusky, DJG. Economic Costs to Kansas Due to State's Failure to Expand Medicaid. The Reach Foundation, 2022. <https://kuscholarworks.ku.edu/handle/1808/32851>

Ginther, DK, **Ayan, D**, Slusky, DJG. The Unexpected Costs of Not Expanding Medicaid in Kansas. Institute for Policy & Social Research at University of Kansas and Reach Foundation, 2022. https://ipsr.unit.ku.edu/CSTEP/PDF/Medicaid_Brief_2022.pdf

Honor and Awards:

- * **Academic Support Grant:** Awarded by the Institute for Policy & Social Research to present research findings at the 91st Annual Meeting of the Southern Economic Association.
- * **Graduate Education Scholarship:** Recipient of the highly competitive Graduate Education Scholarship from the Ministry of Defense, Turkey, covering full tuition fees and providing a generous stipend. (2011-2016)
- * **Infantry Branch School Graduation:** Ranked 11th out of 362 officers upon graduation from the Infantry Branch School.
- * **National Defense University Graduation** Ranked 13th out of 765 cadets upon graduation from the prestigious National Defense University (2007).