

RYAN E. TRACY Ph.D.

BEHAVIORAL RESEARCH / MEASUREMENT / DATA SCIENCE

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PROFESSIONAL SUMMARY

Quantitative social psychologist and data scientist with 8+ years of behavioral research and 4+ years building production measurement and machine-learning systems. Published 13 peer-reviewed papers on human judgment and decision-making. Combines experimental design, statistical modeling, and Python, SQL, and R to investigate behavior and inform operational decisions.

PROFESSIONAL EXPERIENCE

Data Scientist III

Vizio | New York, NY | December 2024 - Present

- Developed a first-party engagement measurement system that transformed raw household viewing events into validated daily, weekly, rolling 7/28-day, and calendar-month metrics; established a reliable measurement layer for downstream reporting and modeling.
- Investigated statistical anomalies in a multidimensional weighting system used to correct nonrepresentative samples; identified methodological and data-quality failure modes and implemented automated integrity and anomaly-monitoring checks.
- Built and productionized an end-to-end Poisson GLM pipeline spanning third-party ingestion, feature ETL, model training, and first-party scoring to model sparse household- and person-level viewing behavior.
- Developed an end-to-end entity-resolution system in PySpark and PyTorch, combining large-scale multisource data, temporal graph features, machine-learned affinity scores, and constrained optimization to produce reliable mappings from noisy data without authoritative ground truth.
- Built two ad-inventory forecasting engines for planning and pricing decisions, achieving less than 10% MAPE against a naive seasonal baseline and enabling \$12M in projected revenue impact.
- Built an XGBoost propensity model predicting future app launches and returns, achieving at least 2.5x lift; translated model findings into targeting strategies that drove \$5M in FY25 impact and \$10M in projected FY26 impact.

Data Scientist

Vizio | New York, NY | October 2022 - December 2024

- Owned end-to-end experimental evaluation of algorithmic changes, including hypothesis development, power analysis, stratified holdouts, and guardrail metrics; delivered evidence-based ship/no-ship recommendations to stakeholders.
- Built and operationalized a production churn-prediction system to identify users at risk of disengagement; deployed reproducible training and scoring pipelines through Databricks and MLflow to support timely interventions.
- Identified behavioral thresholds in frequency, recency, and content interaction associated with retention; converted the findings into improved churn definitions, cohort-level lifetime-value reporting, and more consistent historical metrics.

Data Science Intern

Vizio | New York, NY | June 2022 - August 2022

- Developed an entity-resolution algorithm to reconcile conflicting metadata, taxonomies, and schemas across external data sources, improving data standardization and reducing manual quality assurance.

RESEARCH EXPERIENCE

Ph.D. Student

The Graduate Center, CUNY | New York, NY | August 2018 - August 2024

Social Cognition and Motivated Perception Lab

- Designed and analyzed hypothesis-driven experiments on human judgment, decision-making, and perception using hierarchical models, regression, and causal-inference methods; published 13 peer-reviewed papers.

- Advised external research teams on hierarchical modeling, power analysis, measurement, and research design; translated technical methods into practical guidance through workshops on R, GitHub, and data visualization.
- Conducted research with sensitive participant data under established research-ethics and data-protection requirements, balancing methodological rigor with responsible handling and interpretation of behavioral data.

TECHNICAL SKILLS

Research and measurement: Experimental and quasi-experimental design, causal inference, power analysis, metrics frameworks, hierarchical models, multivariate analysis, sample-bias correction

Programming and modeling: Python, SQL, R, PySpark, pandas, scikit-learn, regression, GLMs, XGBoost, classification, clustering, NLP, deep learning

Platforms and visualization: BigQuery, Databricks, Snowflake, MLflow, Tableau, Matplotlib, Seaborn, ggplot2

AI tools: Hands-on evaluation of Claude, ChatGPT, and Gemini capabilities and limitations; AI-assisted development workflows

EDUCATION

The Graduate Center, City University of New York

Ph.D. in Social Psychology | 2018 - 2024

Quantitative Analysis Specialization Certificate

New York University

Master of Arts in Psychology | 2016 - 2018

University of North Carolina Wilmington

Bachelor of Arts in Psychology | 2009 - 2013