

# WILLIAM ZHU

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## Professional Summary

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Senior Data Scientist with 4 years of experience in hospitality, meal subscription, and survey program evaluation.

**Tools:** SQL, Python, AWS (Sagemaker, JumpStart, Bedrock, Redshift, S3, Glue, Airflow), R, Git, HTML/CSS, Jira, Confluence

**Machine Learning:** LLM fine-tuning, RAG, Agent, Linear and Logistic Regressions, Random Forest, KNN, PCA, Clustering

**Analytical Methods:** Causal Inference, AB Testing, Network Analysis, Natural Language Processing, Time Series Forecasting

## Education

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### The University of Chicago (Chicago, IL)

MA Computational Social Science (STEM), Quadrangle Scholar

September 2020 – June 2022

Courses in Python Programming, Machine Learning, Deep Learning, Natural Language Processing, Social Network Analysis, Algorithms, Discrete Math, Large Scale Computing, Thesis Research [[5-min presentation](#), [blog post](#), [github repository](#)]

Quantitative Marketing Concentration at Chicago Booth School of Business

MBA Courses in Competitive Strategy, Marketing Strategy, Consumer Behavior, Experimental Marketing, Applied Regression Analysis, Big Data, Data-Driven Marketing, Macroeconomics

### Haverford College (Haverford, PA)

BA Sociology, Minor in Statistics, GRE: Verbal: 165/170, Quantitative: 167/170, Writing: 5/6

September 2015 – May 2019

## Work Experience

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### Choice Hotels International (North Bethesda, MD)

Senior Data Scientist

March 2024 – Present

- Improving guest experience by fine-tuning LLMs to summarize guest stay reviews (Llama-3 on AWS Sagemaker Jumpstart)
- Facilitating personalized marketing campaigns by designing and automating processes to identify guest “passion points”
- Promoting a "growth mindset" team culture by hosting monthly book club discussions and lunch-and-learn sessions as Co-chair of the Young Professional Alliance Group

Data Scientist

February 2022 – March 2024

- Enhanced points redemption fraud detection efficiency by X% by building, deploying, and automating ML models
- Increased the loyalty team's ability to identify decelerating high-value guests by X% by building customer lifetime value model
- Supported the cobrand credit card launch by developing bias detection and correction capabilities for guest propensity model
- Delivered insights to the leadership team on Choice guest retention cohort analysis, Choice and Radisson loyalty member overlap, Cobrand Credit Card Holder profiles and usage behaviors, and drivers of guest survey LTR scores
- Nominated as Choice MVP award Finalist and completed Emerging Leadership Program

### RealEats (Geneva, NY)

Data Analytics Consultant

June 2021 – December 2021

- Drove analytics insights that led to \$16 million Series A funding by automating customer retention cohort analysis reports for CEO, CFO, investors, and board of directors
- Improved 2-month customer lifetime value by 7% by identifying promotional codes associated with low churn rate
- Solidified brand positioning strategy for the CMO by identifying top customers persona using logistic regressions and decision trees; compiled customer database by merging sales records, Census, Zillow home value, and various third-party databases

### Westat (Rockville, MD)

Research Assistant

July 2019 – June 2020

- Received the highest performance rating for all 8 evaluation projects by performing survey data analysis and report writings for clients including the U.S. Department of Education, Verizon, and National Science Foundation
- Co-authored an [evaluation report](#) that led to \$260K in funding for Racial Equity Action Leadership Program by showing its effectiveness at guiding 40+ participants to craft company-wide racial equity plan through focus groups and surveys
- Co-authored a peer-reviewed [journal article](#) titled "Using state data sets and meta-analysis of low-powered studies to evaluate a school-based dropout prevention program for students with disabilities." in *Studies in Educational Evaluation*

## Leadership and Community Engagement

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### Dupont Book Club (Washington, DC)

Founder & Organizer

August 2022 – Present

- Organized over 50 bi-monthly in-person book discussion meetings for Dupont Book Club, one of the largest management and professional growth book club in the Washington DC metro area, with 400+ members [[Website](#)]