

WILLIAM ZHU

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Professional Summary

Senior Data Scientist with 5 years of experience applying advanced machine learning and Gen AI techniques to deliver strategic business results in hospitality, consumer tech, and program evaluation.

Languages & Tools: Python (XGBoost, Scikit-learn, Statsmodels), SQL, R, Git, HTML/CSS, Jira, Confluence, LaTeX

GenAI: LLM fine-tuning, Retrieval-Augmented Generation (RAG), Agentic AI (CrewAI, LangGraph)

Cloud & MLOps: AWS (Sagemaker, Bedrock, Redshift, Glue, S3, Airflow)

Certifications: AWS Certified Machine Learning Engineer Associate & AI Practitioner, Google Project Management Specialization

Education

The University of Chicago (Chicago, IL)

MA Computational Social Science (STEM), Quadrangle Scholar, GPA: 3.65/4.0

September 2020 – June 2022

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

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, Macroeconomics

Haverford College (Haverford, PA)

BA Sociology, Minor in Statistics, GPA: 3.73/4.0, GRE: V: 165/170, Q: 167/170, W: 5/6

September 2015 – May 2019

Work Experience

Choice Hotels International (North Bethesda, MD)

Senior Data Scientist

March 2024 – Present

- Improved 20+ marketing campaigns' effectiveness by X% by designing and automating workflow to target relevant audience
- Led multiple Gen AI projects including guest stay review summary (AWS Sagemaker Jumpstart Fine-tuning), contract summarizations (AWS Bedrock), group account entity matching (FAISS RAG), multi-agent orchestration (CrewAI)
- Fostered a culture of growth by hosting monthly book club events as Co-chair of the Young Professional Alliance, promoting cross-functional knowledge sharing

Data Scientist

February 2022 – March 2024

- Increased the ability to identify churning high-value guests by X% by building and deploying customer lifetime value model
- Enhanced redemption fraud detection efficiency by X% by building and deploying ML models in AWS Sagemaker pipeline
- Ensured compliance of credit card launch by developing bias detection and correction capabilities for guest propensity model
- Delivered insights to the executive team on guest retention cohort analysis, Choice and Radisson loyalty member overlap, Cobrand Credit Card Holder profiles and usage behaviors, and drivers of guest stay satisfaction scores
- Finalist for Choice MVP Award; graduate of Choice's Emerging Leadership Program

RealEats (Geneva, NY)

Data Analytics Consultant

June 2021 – December 2021

- Delivered and automated analytics reports that helped secure \$16M Series A funding for CEO, CFO, and board of directors
- Boosted 2-month customer LTV by 7% by identifying high-retention promo codes and refining offer strategies
- Guided CMO on brand strategy by profiling high-value customers via logistic regression and decision tree models; integrated third-party data sources (Census, Zillow, etc.) for enriched segmentation

Westat (Rockville, MD)

Research Assistant

July 2019 – June 2020

- Achieved top performance ratings for all 8 evaluation projects by performing data analysis in R and report writings for clients including the U.S. Department of Education, Verizon, and National Science Foundation
- Co-authored an [article](#) in *Studies in Educational Evaluation* on dropout prevention program efficacy using meta-analysis
- Conducted data analysis for a RCT-based [impact prediction study](#) published in *Journal of Research on Educational Effectiveness*

Leadership and Community Engagement

Bethesda Ted Talk Discussion Club (Bethesda, MD)

Founder & Organizer

August 2022 – Present

- Organized 60+ in-person discussion events for Bethesda Ted Talk Discussion Club, one of the largest personal growth Discussion club in the Washington DC metro area, with 800+ members [[Website](#)]