

Haema Nilakanta

Resume

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Summary Statement

Experienced data scientist with foundational training in statistics and an expertise in statistical computing and applied statistical methodology. Strong leader, statistical programmer, presenter, individual and team contributor, and dedicated to diversity and inclusion within the larger data science field.

Education

- March 2020 **PhD, Statistics**, *University of Minnesota, Twin Cities*, Minneapolis, MN.,
Advisor: Prof. Galin Jones.
Dissertation: *Output Analysis of Monte Carlo Methods with Applications to Networks and Functional Approximation*
- Feb 2018 **Master of Science, Statistics**, *University of Minnesota, Twin Cities*, Minneapolis, MN.
- 2012–2014 **Graduate coursework, Biostatistics**, *The George Washington University*, Washington D.C.
- May 2011 **Bachelor of Science, Magna Cum Laude, Mathematics**, *Iowa State University*, Ames, IA.

Selected Relevant Experience

Present **Principal Data Scientist**, *Target Corporation, Minneapolis, MN.*

- Director-level individual contributor and technical leader in developing models and algorithms that improve business planning and operations
- Mentorship of fellow data scientists
- Develop, deploy, and maintain production based systems
- Principal Data Scientist on the Demand Forecasting Engine:
 - Leader on larger team that provides unit demand forecasts as inputs to supply chain and planning initiatives
 - Focus area on disaggregation and anomaly detection methods
 - Strong cross-team collaboration with engineering partners
 - Established framework with traceable results and measurement pipelines
 - POC GenAI chatbot to help inventory analysts identify key dashboards to aid in RCA
- Principal Data Scientist on the Pricing and Promotions Insights:
 - Leader of team that oversaw pricing and merchandising models at Target
 - Developed a novel scorecard approach to evaluate price recommendations
 - Advised on building a scalable promotions-forecasting application
 - Weekly check ins and updates with business stakeholders

Oct 2019–22 **Lead Data/AI Scientist**, *Target Corporation, Minneapolis, MN.*

- Worked with Target Tech Data Science Personalization Deals team to drive deal-based recommendations at scale
- Senior member and contributor, maintained and upgraded production workflows, code reviews, and innovation
- Reliable onboarding and technical mentor
- Developed, deployed, and managed recommendation systems and prediction-based models
- Collaborated and coordinated with other Target teams (e.g., promotions, pricing, Circle, etc.)
- Key Projects (used Hive, Python, Pyspark, SparkR, Shell, Oozie):
 1. Generalized fallback: Led development of a productionized daily-run algorithm from scratch to generate non-personalized ranking of all offer types at Target (GLMs, seasonality, random forest)
 2. Personalized recommendations of price based offers: Led development of a productionized daily-run algorithm from scratch to generate personalized recommendations of price based offers to all identifiable guests (xgboost)
 3. Eligible Items: Collaborated on a real-time recommendation service to rerank items within an offer for guest relevancy (under patent review; word2vec, cosine similarity)

2019–2018 **Graduate Instructor**, *University of Minnesota, Minneapolis, MN.*

- Spring 2019 STAT 3032-001: Regression and Correlated Data
- Fall 2018 STAT 3011-017: Introduction to Statistical Analysis
- Fall 2018 STAT 3701: Introduction to Statistical Computing (covered initial 6 weeks)

Summer 2018 **Data Science Graduate Intern**, *Target Corporation, Minneapolis, MN.*

- 10 week internship with EDABI data science team
- Worked on an image processing and trend detection project (Python, R, Hive)

Skills

Programming	R, Python, Spark (Pyspark and SparkR), SAS, Hadoop, Hive, Oozie, SQL, Shell, XML
Statistical and Machine Learning methods	Regression, General Linear Models, General Additive Models, Mixed Methods, Hierarchical Modeling, Bayesian Modeling, Regularization, Time Series, Survival Analysis, Experimental Design (A/B testing), Parametric and Non-parametric Methods, Cross Validation, Classification, NLP, Decision Trees, Random Forests, Boosting & Bagging Methods, Neural Networks, Recommender Systems, Simulation-based Approaches
OS	Mac, Windows, Linux
Other Tools	Git, Github Copilot, LaTeX, Microsoft Office, Keynote, Pages
Other	Confident public speaker, strong communication skills, adaptable

Selected Relevant Publications

Nilakanta, H., and Jones, G.L., Research Methods Foundation Project: Monte Carlo Simulation, SAGE Research Methods Foundations, edited by P. Atkinson, et al. (2020).

Nilakanta, H., Output Analysis Of Monte Carlo Methods With Applications To Networks And Functional Approximation, University of Minnesota Digital Conservancy (2020).

Nilakanta, H., Almquist, Z.W, and Jones, G.L., Ensuring Reliable Monte Carlo Estimates of Network Properties, (2019) *ArXiv*.

Selected Awards and Honors

Awarded by Target Corporation

July 2024	All Team Meeting Recognition for DS Supply Chain, Operations, DFE, and GenAI org
Oct 2023	SPOT Award – recognition for individual performance on a team
Sep 2023	Invited to attend 2023 Grace Hopper Conference
Jun 2022	Nominated by leadership to attend Target Tech Storytelling Training for leaders

Awarded by University of Minnesota

Spring 2019	Bernard W. Lindgren Graduate Instructor Award, School of Statistics
Spring 2018	Director's Award, School of Statistics
2017-2018	Graduate School Interdisciplinary Doctoral Fellowship
May 2017	Social Networks and Health Fellowship, via Duke University
Summer 2016	Lynn Lin Fellowship in Statistics, for promise in statistical consulting
Summer 2015	First Year Graduate Research Fellowship

Service

Minneapolis Public Schools

2017-2023	Volunteer Math GED Tutor, <i>MPS Adult Education</i> .
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Target Corporation

2023-Present	US Chair of Small Moments Workstream for Target Women in Data Science, <i>Target Tech</i> .
2020-Present	Member of the Data And Inclusion (DAC) Group, <i>Target Data Sciences</i> .
Aug 2021	Panelist for AI Event at Grace Hopper Conference, <i>Target Tech</i> .
Dec 2020	Data Science 4 All Mentor, <i>Target Data Sciences with Correlation 1</i> .

Select Affiliations and Memberships

- American Statistical Association (ASA), ASA Caucus for Women in Statistics (ASA CWS), Statistics Without Borders (SWB)