

# Dr. Kobi Abayomi

## Probabilist, Data Scientist, Statistician

### Data Science Executive

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## Education

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### Stanford University

Postdoctoral

Palo Alto, CA

### Duke University/Statistical & Applied Mathematical Sciences Institute (SAMSI)

Postdoctoral

Durham, NC

### Columbia University

M.A., M.Phil & Ph.D in Probability & Statistics

New York, NY

### Georgia Institute of Technology

B. S.

Atlanta, GA

## Skills

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Data analysis and visualization, Mathematical Modeling, R, SAS, SPSS, Maple, Mathematica, MATLAB, Julia, Clojure, Python, C++, Java, VisualBasic, Scala, Spark, Hive/Hadoop, SQL, Streamlit, GtK, Neo4j, Databricks, GCP, AWS cloud, Azure, Condor, PyTorch, Tensorflow, SGD, Machine Learning, Statistics, Time Series, Forecasting, Predictive Modeling, A/B & Multi-Arm Testing, Stochastic & Linear Optimization, Bayes models & workflow, Neural Networks, GANs, GenerativeAI.

## Specialization

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First principles application of theory to develop & create novel, tuned-to-fit, models from scratch. Data Science for Digital Media, Audience Segmentation & Targeting, Dependency Models, Probabilistic Sorting Algorithms, Bayesian Models. Creating & Managing Large Efficient Teams from cold-start. I & my teams solve problems, explain what we are doing in plain language, & create novel methodologies. These work efficiently, precisely, add value & grow revenue.

## Experience

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### Head of Science

Gumbel Demand Acceleration of Science

San Diego, CA

2023 – Present

- SaaS (software-as-a-service) company for demand acceleration in digital media for content holders. Pricing and demand modeling for content rights speculation, artist & content-tranche level deal modeling
- Dynamic metering of Demand Affinity on Segmented Audiences: *Patent Applied*
- Enhanced lyric transcription via genre and sound awareness: *Patent Applied*

### SVP of Data Science

Warner Music Group

New York, NY

2019 – 2023

- Global Music Recording & Publishing Company. I created and led WMG's Data Science group: a team of Statisticians, Operations Researchers, Psychometricians, Economists & Data Engineers
- Created & Productionized (Bayesian) Demand Forecast Model & Workflow; Created & Productionized Dynamic Optimizer for Release & Marketing Scheduling
- Created & Productionized Deep Learning IDE for audio asset augmentation.

### Director of Cross-Channel Monetization

Warner Media

New York, NY

2019 – 2020

- Revised Forecasting Model Suite & Workflow, Revised Optimization Model Suite
- Introduced multi-arm forecasting & modeling to power addressable, cross-channel, audience targeting and advertisement.

## Head of Data Science

Barnes & Noble Education

- Created 'First-Day' grade prediction methodology
- Created text mining methodology for course title/textbook mapping
- Created Enterprise Level Data-Lake, Semantic-Pedagogical Search & Retrieval Function ([www.bartleby.com](http://www.bartleby.com))

New York, NY

2018 – 2019

## Sr. Data Scientist

Dun & Bradstreet

- Created Demand Based Marketing Recommendation Engine
- Created NLP models for Unstructured Data – entity identification, sarcasm detection.
- Created Hidden MDP for Entity Re-identification from incomplete information in Large Networks
- Briefed National Security Telecommunications Advisory Committee (NSTAC): 2017. 2018

New York, NY

2016 – 2018

## Selected Publications

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1. Abayomi K (2024). **How & Why to Use Audience Segmentation to Maximize Listener Demand Across a Digital (Music) Portfolio.** *MAA 2024.*
2. Liu X, DeMori J, Abayomi K (2022). **Open Set Recognition for Music Genre Classification.** *ISMIR 2022.*
3. Abayomi K, Hill S, Vastola J (2015). **Statistics for Re-Identification In Network Models.** *Network Links: Network Analysis*
4. Girma G, Garuba M, Jiang L, Abayomi K, Lui C. (2015) **Analysis of DDOS Attacks & an Introduction of a Hybrid Statistical Model to detect DDOS attacks on Cloud Computing Environments.** *ITNG 2015.*
5. Abayomi K, Gelman A, Levy M (2008) **Diagnostics for Multivariate Imputation.** *Journal of The Royal Statistics Society, 57*

More available at <http://www.re-search.website/>

## Teaching

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### Seton Hall University

Adj. Professor of Statistics & Data Science Faculty Council

South Orange, NJ

2016 – present

### Universidad de Cuenca

Professor of Industrial Engineering

Cuenca, Ecuador

2014 – 2016

### Binghamton University

SUNY Fellow of Statistics & Environmental Engineering

Binghamton, NY

2012 – 2015

### Georgia Institute of Technology

Asst. Professor of Statistics & Industrial Engineering

Atlanta, GA

2008 – 2012

## Activities

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MAA Chan Stanek Lecture

AI 2030 Chapter Advisor

Distinguished Alumni of the Year, Georgia Institute of Technology

Board Member, Modal Learning

Board Member, Barnes & Noble Education

Board Member, Georgia Institute of Technology: Ivan Allen College

Faculty Council Chair, Barnes & Noble Education

Data Science Advisory Council, Seton Hall University