

Foreword:

With over nine years of experience working in high-performing and competitive teams, I have gained a wealth of knowledge and skills that I believe make me an asset to any organization. In my five years as a lead ML staff, I have focused on solving complex problems related to search ranking, relevance, and content personalization. My interests and expertise lie in the areas of NLP, search ranking, personalization and vision models. I am confident that my skills and experience make me well-suited for a variety of roles, and I am excited to bring my passion and dedication to a new challenge.

Work Experience:

Career Break

Oct 2022-Present

I am pursuing my interests in Deep Learning and Generative AI, focusing on topics in Probabilistic Graphical Models for Topic Modelling, Variational Auto-Encoders and Diffusion Models. You can find some of my recent work [here](#).

Walmart Labs

Apr 2020-Sept 2022

Senior Manager, Data Science I (2022)

Team: Walmart Search Marketplace

Led a team of five ML engineers offering content based recommendation solutions using Deep Learning techniques for sellers.

- Led Search Insights & Assortment Growth Workstreams, providing **AI driven insights** to Marketplace Sellers.
- Led Search Spam Workstream, building **Product SPAM models** to help Growth teams on Spamminess of inventory.

Staff Data Scientist (2020-2021)

Created opportunities for the Seller to improve their product performance in Search and Browse experiences.

- Designed & Developed Keyword recommendation and relevance models for **100 million products** combining BERT based NLP features and custom designed Keyword performance features in a multi-phase keyword ranking algorithm.
- Designed & Developed **interpretable ML models** to provide performance insights for under-performing products.

Worked on optimizing for conversion and relevance metrics for Search

- Launched app-based click-stream signals to optimize for query conversion metric in Search. **ATC/user lift +0.61%**.
- (SIGIR submission) Designed ML approach, **multi-objective learning to rank** through label aggregation approaches.
- Developed a **Semantic Search ranking** model using a bi-encoder style Deep Learning architecture.
 - Generated initial product attribute embeddings using graph embedding techniques.

[Sensara Technologies](#) (AI Startup)

June 2019-Apr 2020

Staff Data Scientist

Designed and Developed the User content Personalization Platform called the “+You Page”.

- Personalization platform from the ground up for creating **user embeddings** from **real-time** log events (1 million events/hour at the peak) for 300K+ users (Airtel and MI TV users) watching content on TV.
- Using ANN for **context-based personalization** for customers on different modules of the app.

Walmart Labs

Aug 2013-May 2019

Staff Data Scientist

Walmart Grocery & Walmart.com (2018-2019)

Led the team to deliver on search relevance projects.

- **Text Based CNN** models to understand User Intent from the perspective of the Walmart grocery catalog.
- Developed Thompson Sampling to rank **trending products** to optimize conversions for Walmart.com Search.

Sam's Club (2016-2017)

- Designed & Developed **Hierarchical Bayesian models** for reorder based personalization on Search ranking for members.
- Developed **Hierarchical Bayesian models** to benchmark search ranker performance for analysis of ranking algorithms.
- Models to optimize conversion using **Click-Stream** in browse pages, handling position bias and recency trends for Search.

Walmart.com (2014-2015)

- Models to optimize conversion using **Click-Stream** based to improve Search ranking. **Product Orders/user lift +1.9%**.

Microsoft Research

Jan 2013-March 2013

Intern

Algorithm Selection for Software Spec Checkers used by Windows. Presented at the Mining Software Repositories Conference.

PUBLICATIONS:

1. [MUX](#): Algorithm Selection for Software Model Checkers (Published in **MSR, Hyderabad**) **31 citations**.
2. [MintHint](#): Automated synthesis of Repair Hints (Published in ICSE - **A* conference**) **115 citations**.
3. **(Not accepted: SIGIR short paper)** Label aggregation approaches for Learning to Rank in E-commerce¹.

ACHIEVEMENTS:

- **AIR 8** among 136K, 100 percentile in **GATE 2011 Computer Science Exam**.

Indian Institute of Science, Bangalore

Aug 2011-Jul 2013

- Masters in Engineering (ME) in Computer Science with CGPA of **6.8/8**. Top 10 percentile at IISc.
- Secured S grade (8/8) in Design and Analysis of Algorithms course, **IISc Bangalore**. Top 5 percentile.

Walmart Labs, Bangalore

- Twice **Role Model** rating on performance in 2017 & 2018. Top 5-7 percentile based on performance in Walmart.
- **Conference Presentation** -- Solution to Reorder-Based Personalization for Sam's Club at Walmart.

Afterword:

If you've taken the time to read my resume, I am grateful and deeply humbled. I do hope you've found something of common interest and that you reach out to chat about it!

¹ Paper available on request