

Experienced AI Leader with 11+ years in applied AI, specializing in Search, Personalization, and Generative AI solutions. Proven track record of building cost-effective scalable systems and leading high-performing AI engineering teams. Ranked in the top 0.01% (AIR 8) in GATE CS exam, demonstrating technical excellence and strong problem-solving skills. Skilled in collaborating with cross-functional teams to bridge technology and business for impactful results.

Work Experience:

[Needl.ai](#), Bangalore

Apr 2023-Present

Head of AI

Leading AI strategy, team building, and cross-functional collaboration to drive Needl.ai's long-term vision of creating AI-powered workflows that help customers stay informed and improve decision-making.

Team Building & Leadership: Scaled the AI team from **2 to 7 members**, recruiting top talent from leading institutions (IIT Kanpur, IIT Dharwad, IIT Bhilai). Guided the team through the development of cost-effective AI solutions for Search, Question Answering on extremely large datasets (**>10 TB**), and complex workflows for alerting and agentic tasks.

Strategic AI Leadership: Collaborated with the CEO and product teams to define and execute a strategic AI roadmap that aligned with business objectives. Spearheaded key initiatives, including partnerships with Azure, to drive business goals.

Solution Crafting & Client Engagement: Spearheaded efforts to translate diverse client use cases into practical AI solutions. Worked closely with clients and cross-functional teams to customize AI workflows, particularly agentic workflows—highly complex, automated solutions that extract insights from documents (e.g., PDFs) and deliver dashboards. Built a modular "Lego block" framework, allowing AI components (e.g., question-answering systems) to be adapted across projects.

Agentic Workflows & Document Synthesis: Developed advanced agentic workflows for end-to-end information extraction from complex documents (ex: financial reports), leveraging QA systems and vision tools to deliver automated dashboards.

Key AI Projects:

- **AskNeedl:** Led the development of a Question-Answering system with **85% precision** on Needl.ai's internal benchmark, outperforming OpenAI's assistant (**20 vs 6 on Needl.ai's benchmark**) for long, complex financial documents.
- **Industry-Specific Solutions:** Delivered Generative AI solutions for alerting workflows in sectors like energy trading, building reliable, trust-focused workflows that help industries adopt AI more confidently.

Professional development, Break

Oct 2022-Mar 2023

Took a career break to deepen expertise in deep learning and generative AI, working on personal projects related to diffusion models. [View my work here](#).

Walmart Labs, Bangalore

Apr 2020-Sept 2022

Senior Manager I, Data Science, Workstream Lead, Walmart Search Marketplace

Led 5 member AI Team, building AI driven insights using NLP, deep learning & Spark for **100K Sellers & 60M products**.

- **Content Recommender:** Used by **7K Sellers on 400K products** to improve product discoverability. Utilizing sentence transformers, NLP & Statistical techniques to identify high impact keywords for products.
- **Assortment Recommendations:** Helped Walmart procure products that drove **\$20M** in sales using semantic search embeddings and Solr to identify assortment gaps.
- **Search Conversion Optimization:** Improved search conversions by **61 basis points** by developing multi-objective learning and click-based ranking algorithms.

Other Work: Semantic Search Ranking using Bi-Encoder deep NN, Graph-based embeddings, Spam Identification, Attribute Impact Insights, Semi-Supervised Learning, Taxonomy Matching using transformer models.

Sensara Technologies

June 2019-Apr 2020

Staff Data Scientist, Lead Content Personalization

- **Creator of the Content Personalization Platform** that powered Sensara's "+You Page" and recommendation modules for partners like Xiaomi and Airtel.
- Built user and content embedding models using knowledge graphs and watch-time data to improve recommendations.
- Developed a real-time personalization platform processing **1 million events/hour**, serving **300K+ users**.

Walmart Labs, Bangalore

Aug 2013-May 2019

Staff Data Scientist, Walmart Search

Lead and key contributor on Walmart Grocery, Sam's Club, and Walmart.com Search ranking teams.

- **Grocery Search:** Improved product relevance using CNN models for intent and attribute understanding, boosting grocery conversions.
- **SamsClub Search Personalization:** Developed Bayesian models for reorder-based personalization, increasing conversion rates by **1%**.
- Led a team to optimize search ranking via clickstream data, resulting in a **+1.9% increase** in user orders.

Other Work: XGBoost Re-Ranking for Grocery, Related Searches via Markov models, Spell Correction, Typeahead Systems, Merchandising Modules for Walmart.com.

Microsoft Research, Bangalore

Jan 2013-March 2013

Intern

Worked on the **Portfolio Algorithmic Selection problem** with the Software Verification team, contributing to research that led to improved model checker selection performance.

EDUCATION & ACHIEVEMENTS:

Publications & Research

1. [Multi-Objective Learning](#): Explored label aggregation for e-commerce learning to rank, contributing to improved relevance and ranking models.
2. [MUX](#): Co-authored a paper on algorithm selection for software model checkers (**39 citations**).
3. [MintHint](#): Developed automated repair hints for software engineering (**118 citations**).
4. [Diffusion Models](#): Created a tutorial on diffusion models with over **50+ stars** on GitHub.

Masters in Engineering (ME), Computer Science, Indian Institute of Science

Aug 2011-Jul 2013

- CGPA of **6.8/8**. Top 10 percentile at IISc.
- **AIR 8** among 136K, 100 percentile in **GATE 2011 Computer Science Exam**.