

Disha

Seattle, WA | disha.7003@gmail.com | +1 669-254-7191 | [LinkedIn](#)

Research Scientist with 14+ years of experience in solving real-world business problems across different domains. Expert in Generative AI, machine learning, and causal learning, with a proven track record of developing innovative solutions that drive business growth and improve customer experience.

Skills

- **Generative AI & LLMs:** Prompt Engineering, Fine-tuning, Model Development, Application Design
- **Machine Learning & Data Science:** Statistical Analysis, Natural Language Processing, Causal Learning, Model Building, Deployment, and Monitoring
- **Programming & Tools:** Python, R, SparkML, SQL, AWS (IAM, EC2, S3, Redshift, EMR, Athena, SageMaker, Bedrock)

Patents

- *A generalized technical framework for proactive and predictive customer support* (US 85778500)
- *Topic Continuity Detection in Extended Conversations Using Attention Mechanism* (US 86197222)

Professional Experience

Sr. Research Scientist, [Amazon](#)

Seattle, USA | Jun 2016 – Present

Digital, Devices and Alexa Support (Customer Service)

- Engineered robust guardrails and content moderation systems for a customer support Generative AI solution, enhancing safety and correctness of AI responses, reducing defect rates by 30% and improving customer satisfaction scores by 25%
- Designed and implemented a proactive customer outreach system, resulting in a 15% decrease in silent customer churn and a 20% increase in issue resolution rates
- Led a project to generate insights from customer contacts using LLMs, identifying top 5 recurring issues and contributing to a 10% reduction in contact volume
- Deployed the Concessions Abuse Prevention model, achieving 0.95 recall in flagging abuse contacts and reducing overall concessions by 55%.

Buyer Risk Prevention (Customer Trust & Partner Services)

- Established an Inclusive ML framework, leading to a 19% reduction in bias-related incidents and improving model fairness across diverse customer groups
- Developed the Customer Trust Builder model, optimizing fraud detection while maintaining positive customer experience, resulting in a 12% decrease in false positives and 8% increase in customer retention
- Created the OpABC system, automating low-risk order processing during capacity constraints, which improved on-time delivery rates by 18% and customer satisfaction by 15%
- Built the Virtual Investigator model, automating 60% of human investigator decisions and reducing investigation time by 35%

Data Scientist, [Zapak Games](#)

Pune, India | Dec 2015 – Jun 2016

- Implemented a churn prediction model for a game, increasing revenue by 28% in 3 months through targeted retention campaigns
- Developed a recommendation engine for in-app stores, boosting in-app purchases by 15% and overall game revenue by 10%

Data Information Analyst 2, [Red Hat](#)

Pune, India | Jul 2015 – Dec 2015

- Developed a subscription renewal prediction model, improving customer retention rates by 18% through targeted outreach programs
- Deployed a weekly revenue forecasting model for a key product, achieving 92% accuracy and enabling more precise financial planning

Programmer Analyst, [Cognizant](#)

Pune, India | Jul 2011 – Jul 2015

- Led a Google Analytics integration project, resulting in a 25% improvement in marketing ROI through data-driven campaign optimization
- Managed a data mining ETL development project using SAS Enterprise Guide, reducing data processing time by 40% and improving data quality by 30%

Education

Online Masters in Computer Science, Georgia Institute of Technology

Online | Aug 2021

Certificate in Business Analytics, Indian School of Business

Hyderabad, India | GPA 3.3/4.0 | 2015

Bachelor of Engineering, Osmania University

Hyderabad, India | GPA 3.8/4.0 | 2011