Nandan Keshav Hegde

hegdenan@msu.edu | GitHub | Portfolio | Rarepeti | Academic and Professional references | Experience certificates

Mobile: 517.528.5277 **|** Location: East Lansing, MI, USA

Education

MICHIGAN STATE UNIVERSITY
Sep 2024 – Present | East Lansing, MI, USA
Master of Science in Computational Data Science - MSDS (STEM Designated) | GPA: 4.0/4.0 (Top 1% of Class) | GRE 321/340
- Co-founded Rarepeti, an e-commerce initiative aimed at connecting regional vendors and empowering local communities in India
- Built an end-to-end Natural Language Processing and Generation small-scale cuisine generation and predictive analytics and a Statistical approach to Recommendation System showcasing hands-on implementation of full-stack data applications

MANIPAL UNIVERSITY, MANIPAL INSTITUTE OF TECHNOLOGY
Jun 2015 – Nov 2019 | Manipal, India
Bachelor of Technology in Electrical and Electronics Engineering | GPA: 8.1/10.0 (Top 10% of Class)
- Awarded the prestigious AICTE Scholarship for academic performance and merit throughout the undergraduate program
- Served as Treasurer and President of the MIT Chess Club, Manipal

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Internship Experience

PricingServices.ai
Data Science & AI intern | Sep 2025 – Present | Boulder, Colorado, USA
- **Design and implement SOTA machine learning model:** Dynamic pricing for the premium and Boutique Hotel tiers in the Hospitality industry
- **White paper implementation:** Develop relevant frameworks from existing proprietary theoretical models and deliver results to clients with astute math and statistical reasoning
- **Multi-agent system:** Enhance the existing data collection and updation pipelines with reliable agentic systems for productive maintenance of pipelines and explore other functionalities where such systems could be incorporated

EMERGENCE AI
AI research intern | May 2025 – Present | Remote
- **ACA Development and Benchmarking:** Designed the Agent Creating Agent (ACA) framework for autonomous tool generation and orchestration, achieving 85% task success across domains.
- **CRAFT Development:** Part of the development efforts for the Gen Agent for CRAFT - Emergence AI's flagship platform that enables machine-scale automation of complex enterprise data workflows through natural language commands, with potential to boost AI output quality by ~2x via LLM-as-judge benchmarking and automated prompt pipelines.
- **CRAFT Evaluation:** Streamlined agent assessment by integrating Google Big Query analytics, automating workflows, and configuring domain-specific APIs for CRAFT's private preview.

Work Experience

TREDENCE ANALYTICS SOLUTIONS PRIVATE LIMITED
Data Science Consultant | Jun 2023 – Jul 2024 | Bengaluru, India
- **Promo Optimization & Pricing Simulator (Domain: Retail):** Designed a data-driven framework to simulate pricing and promotional impacts across key SKUs, identifying optimal promo combinations for pilot implementation and aligning with business uplift goals.
- **Promo Effectiveness Analysis (Domain: Retail):** Developed baseline and lift modelling for promotional events, leading to a ~20–25% decrease in inefficient spending and improving ROI benchmarks across targeted campaigns.
- **Product/Item Matching (Domain: Retail):** Built an NLP pipeline to automate SKU alignment across vendors and platforms, improving match accuracy to 65% and saving ~250–300 hours annually in manual reconciliation.

INCEDO TECHNOLOGY SOLUTIONS LIMITED
Senior Data Scientist | Feb 2021 – May 2023 | Bengaluru, India
- **Demand Forecasting (Domain: CPG):** Created machine learning models to improve forecast precision by ~10%, enabling better supply chain alignment and reducing excess inventory costs, with estimated savings of $200K–$300K/year.
- **Enterprise Data Service Workbench (Domain: Financial Service):** Led the development of a self-service analytics platform for RFP support, increasing proposal throughput by ~40–50% and reducing average turnaround time.
- **Client Cohort Analysis (Domain: Financial Service):** Delivered behavioural segmentation for investor profiling, aiding in targeted engagement strategies that led to a ~10% lift in RFP conversion rates and enhanced quarterly revenue by ~20%.
- **Investment Director Performance Dashboard (Domain: Financial Service):** Developed a retrospective portfolio insights dashboard tracking KPIs across advisory/discretionary channels, improving transparency and decision support for directors.

ZS ASSOCIATES INDIA PRIVATE LIMITED
Decision Analytics Associate | Jan 2020 – Jan 2021 | Pune, India
- **Survival Analysis (Domain: Pharma and HealthCare):** Applied time-to-event modelling to predict therapy switch patterns, contributing to a ~15–20% reduction in patient churn and improving client engagement strategy.
- **New Patient Adoption Modelling (Domain: Pharma and HealthCare):** Built ML models to rank HCPs by likelihood of prescribing new therapies, leading to improved sales force effectiveness and a ~25–30% reduction in targeting costs.
- **Marketing Mix Modelling (Domain: Pharma and HealthCare):** Streamlined regression-based Market mix model processes, reducing model delivery cycles by 30–40% and identifying high-ROI promotional levers, contributing to a ~10–15% marketing ROI lift.

Research | Professional Skill Development

- **Advancing Causal Video Question Answering:** Fine-tuned open source Generative small and large Foundational Language and Vision models (GFM's) to come up with an ensemble approach accurately analyzing and interpreting multi-modal video-text data, enhancing AI-driven understanding of complex video content and context.
- **Michigan Farm to Institute (MFIN)**: Conducted comprehensive data-driven analyses, generating actionable insights to support effective outreach strategies and foster institutional adoption of locally sourced food systems.
- **Foundational Degree in Data Science and Programming, IIT Madras**: Selected among the first cohort to complete an innovative online degree covering foundational concepts in Data Science, Machine Learning, and Programming
- **Certified Cloud Practitioner & Machine Learning - Specialty, AWS**: Enrolled in certification programs on demand to enhance Cloud and ML skillsets

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Skills

- **Programming languages and scripting:** Python, R Programming, Awk, Bash, SQL, MATLAB
- **Machine Learning and AI:** Statistical Modeling, Time Series Analysis, Demand Forecasting, Pytorch, TensorFlow, Natural Language Processing(NLP), Computer Vision (CV)
- **Cloud & Big Data Technologies:** AI/ML and Deployment services of Azure, Amazon Web Services (AWS) , Google Cloud Platform (GCP), PySpark
- **Web Development & Deployment:** Flask (Back-End), Vue.js, HTML, CSS (Front-End), Fast API (Backend), Vercel, Streamlit
- **Analytics & Platforms:** GIT(Version Control), Advanced Excel, MS PowerPoint, Database Management Systems, Tableau, Big Query
- **Agentic AI frameworks & workflows:** LiteLLM, MCP(Model Context Protocol),Lang Chain, RAG, Autonomous task orchestration, Agent Benchmarking

N. K. Hegde