

Strategic Data Enthusiast with a proven record of driving enterprise transformation through predictive analytics, cloud reporting, and SQL-driven insights. Skilled at converting complex data into executive-ready intelligence, enabling operational efficiency, cost reduction, and scalable business impact.

EDUCATION

Master of Science, Applied Data Science, University of Chicago

Coursework: Big Data, Data Engineering, Data Mining, Data Visualization, Healthcare Analytics, Linear and Non-Linear Models, Machine Learning, NLP, Python, Statistical Analysis, Time Series & Forecasting

Bachelor of Technology, Computer Science, Indore Institute of Science & Technology

WORK EXPERIENCE

Senior Data Analyst | Cigna Healthcare, Chicago

(Jan '24 – Present)

- Identified \$100K+ in redundant spend through NLP analysis of 40K+ budget reports and SQL-based anomaly detection of repeat expenses and misallocations
- Built and deployed machine learning models in SAS to predict high-cost approvals and automate decision logic, improving approval workflows by 20%
- Reduced claim processing delays by 30% by developing Power BI and Excel dashboards that surfaced denial trends, billing inefficiencies, and revenue leakage across finance operations
- Improved data integrity and billing accuracy by auditing finalized patient records and building SQL/DBT traceability tools to detect and recover dropped claims across clinical and backend systems

Data Scientist | Capstone Project | UChicago Medicine, Chicago

(Mar '23 – Dec '23)

- Developed an AI-powered radiology reporting platform projected to cut documentation workload by 40%, improving turnaround and reducing burnout among radiologists
- Partnered with clinical leaders to structure and label 40K+ imaging reports, significantly improving LLM training data quality and alignment with radiology standards
- Fine-tuned domain-specific LLMs (Mistral, MedAlpaca, BioGPT) using QLoRA and PEFT techniques, cutting compute costs by 30% while boosting clinical coherence
- Ensured medical accuracy of outputs via ROUGE-L evaluation (0.64) and expert fact-checking, enabling safe integration into real-world care environments

Data Science Research Assistant | University of Chicago, Chicago

(Oct '22 – Jan '23)

- Developed a real-time audio classification tool to distinguish critical hospital alarms from background noise, improving clinician response in high-acuity settings
- Achieved 90%+ detection accuracy by extracting log-mel spectrograms and training a CNN (VGGish) to capture alarm-specific patterns
- Boosted robustness (F1: 0.85) by combining CNN (VGGish) embeddings with XGBoost, enhancing reliability in noisy hospital settings
- Cut inference time by 50%, enabling deployment on edge devices for continuous in-hospital monitoring

Business Data Scientist | SpidyTech, India

(Mar '20 – Mar '22)

- Saved 800+ analyst hours annually by automating manual reporting workflows using Python, SQL, and advanced Excel tools
 - Reduced overhead by 15% through executive dashboards that forecasted demand and optimized workforce planning in Power BI
 - Enabled cross-team ML adoption by containerizing models using Docker and deploying on AWS and Azure for scalable, cloud-based inference
 - Streamlined cross-functional strategy by integrating claims and analytics workflows across brokerage, underwriting, and insights teams
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PROJECTS

AI-Driven Workforce Transformation:

Optimized retraining investments by designing an NLP + optimization pipeline using Pyomo and Gurobi to identify roles at risk from AI and prioritize upskilling under budget constraints

TECHNICAL SKILLS

- **Programming:** Python, SQL, SAS, R
- **Data Analysis & Modeling:** Predictive Modeling, A/B Testing, Causal Inference, Clustering, Optimization (Gurobi, Pyomo)
- **ML & AI:** NLP, CNNs, XGBoost, LLMs (Mistral, MedAlpaca, BioGPT), Hugging Face
- **Data Engineering:** DBT, ETL Pipelines, Feature Engineering, Data Warehousing
- **Visualization:** Power BI, Tableau, Matplotlib, Seaborn
- **Cloud & DevOps:** AWS, GCP, Azure, Docker, Git, Spark (basic), Hadoop
- **Tools & Collaboration:** Excel (VLOOKUP, pivot tables, macros), Agile, Executive Reporting