Shreya Sharma

Data Scientist and Engineer

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Education

University of Massachusetts – Amherst *Amherst, MA, USA*
Masters of Science (MS) in Computer Science 2025–Present
Fall 2025 Courses: Systems for Data Science (COMPSCI 532), Information Retrieval (COMPSCI 646), Statistical Computing (STAT 535)

Manipal Institute of Technology *Manipal, KA, India*
Bachelor of Technology (B.Tech) in Computer Science and Engineering 2019–2023
Minor: Computer Graphics and Visualization
CGPA: 8.69/10 (Scholaro Equivalent 3.7/4)
Relevant Coursework: Engineering Mathematics, Distributed Systems, Computer Vision, Digital Image Processing, Augmented and Virtual Reality, Multimedia Technologies, Software Testing and Analysis, Human-Computer Interface

Chittagong Grammar School *Chattogram, CTG, Bangladesh*
CIAE A Levels (High School Completion) 2017–2019
Board Results: 2 A*, 1 A, 1 B
Subjects: Computer Science, Mathematics, Physics, Chemistry

Professional Experience

Juniper Networks *Bangalore, KA, India*
Jan 2023 – Aug 2025

Software Engineer II 06/2024 – 08/2025

- Expanded RRM anomaly detection capabilities by implementing new outlier checks on RRM and AP behavior, enabling real-time detection of poor channels or faulty AP behavior that previously went unnoticed and providing alerts for QA and engineering teams.
- Developed and deployed a Slackbot integrated into Storm topology for anomaly spike alerts.
- Facilitated real-time anomaly detection output through Elasticsearch pipeline, giving QA and Devs interactive monitoring of anomaly trends, creating a Dashboard in all key environments to showcase important data points for each anomaly type
- In-depth AP health research on $\sim$ 1M + AP time series records from global cloud deployments, applying statistical/probabilistic modeling and visualization, producing detailed Confluence reports on interference, utilization, firmware issues, and error counters, to further understand various indicators to poor AP behavior and facilitate further use of the indicators for future projects.

Software Engineer I 08/2023 – 06/2024

- Enhanced RRM anomaly detection using a Kafka-Apache Storm workflow both in terms of load and cross-validating outputs with QA, Dev and Firmware teams, reducing severe false positives and improving detection accuracy in thousands of AP.
- Setup daily cron jobs through EMR to clean, organise and create visualizations saved to S3/GCS to reduce daily overhead and analyse flags across environements
- Validated zero-client detection cases by analyzing multiple AP health metrics, designing statistical thresholds, and implementing flags, ensuring that anomalies were flagged only when materially impacting network performance.
- Performed large-scale AP health analytics by correlating radio, client, firmware, and utilization indicators using statistical techniques, surfacing patterns that informed both product reliability fixes and customer troubleshooting guides.

Software Engineer Intern 01/2023 – 06/2023

- Developed an AP system panic and reboot event anomaly detection framework using exploratory data analysis and LSTM models. Applied across large-scale firmware datasets to uncover patterns in low-memory failures and related anomalies.
- Built an automated reporting pipeline in Pandas and PySpark that generated interactive HTML dashboards with visual and textual summaries of monthly event firmware reboot trends and per-feature anomalies with automated upload to cloud through EMR and, later, Airflow tasks.

Andritz *Bangalore, KA, India*
Jun 2022 – Jul 2022
Software Development Intern 06/2022 – 07/2022

- Developed a multithreaded TCP/IP client–server system in C++ to enable secure communication between industrial machines and control applications, with features for live connection checks, fault recovery, and tokenized command processing.
- Enhanced system reliability and scalability by implementing START/STOP server controls, periodic server–client pings, and automated handling of client disconnects, ensuring stable performance under multiple concurrent connections.
- Real-time data visualization tools prototyped by designing dashboards and autoupdating time series graphs (using C#, AJAX, and C3.js), providing trainers and engineers with clear, interactive views of machine performance and operator test results.

Nebula Cloud Solutions *Skopje, MK, Macedonia*
Jul 2021 – Aug 2021
Remote Data Analyst 07/2021 – 078/2021

- Collected and processed multi-year pollution and weather data for Skopje using Python, Selenium, and Requests, transforming raw government records into structured time-series datasets for analysis.
- Interactive visualizations generated with Tableau, Plotly, and Seaborn to uncover pollution trends and weather correlations, providing Nebula Cloud Solutions with actionable insights for environmental reporting and predictive modeling.

Other Projects

- **Impact of Gamification on Online Learning Systems**: Designed a **structural equation model** to study effect of gamification on self-learning outcomes; Conducted empirical analysis via Duolingo and Google Forms. *Research Project under Pranav S Joshi (Assistant Professor) w. Aditya Gunturu and Akshat Taneja*
- **Material Image Classification & Recyclability Prediction**: Explored recyclable material classification using **OpenCV** preprocessing and trained a **CNN (TensorFlow)** to predict recyclability.
- **Customer Feedback Sentiment Analyzer**: Built NLP pipelines with **TF–IDF** and **LLM-based models** to analyze product review sentiment and summarize customer insights.

Technical Skills

Programming: Python, C++, Java, SQL, HTML/CSS, C++, C#, JavaScript
Data & ML: PySpark, TensorFlow, scikit-learn, LSTM models, Statistical/Probabilistic Modeling, Anomaly Detection
Cloud & Big Data: AWS (EMR, S3), Google Cloud Platform, Apache Storm, Apache Kafka, Apache Airflow, Redis, Elasticsearch
Visualization & Reporting: Tableau, Plotly, Matplotlib, Seaborn, c3.js, AJAX dashboards, Confluence reports
Tools & Other: Selenium, OpenCV, Slackbot API, Git, Blender 3D, Figma, Unity Engine

Leadership & Extracurriculars

IAESTE India – Head, Consular and Member Affairs of National Committee (2021–2022)

IAESTE LC Manipal – Finance-In Charge (2020–2021)

Research Society Manipal – Expertise Head, Humanities (2021–2022)

VISION Student Project – AR Subdivision Member (2020–2021)

ACM–W – Core Committee Member (2020–2022)

The Duke of Edinburgh Volunteering – Gold Community Service Award (2018)

Queens Commonwealth Essay Competition – Silver Award, Senior Category (2017)

IDXA Manipal – Founding Board Member (2022–2023)

Certifications & Workshops

Coursera:	Python for Data Science and AI; Python Project for Data Science; Intro to C# & Unity
Coursera Project Network:	Learn MySQL Fundamentals; ML with Docker; Components in Figma
Udemy:	AI in Digital Marketing; Python Programming & Software Design
Workshops:	Hands-On Arduino (MIT Innovation Centre); AI/ML with R (HT India Labs); IAESTE India LC Manipal
Other:	Build Your Own Redis (codecrafters.io)