

# Namit Shrivastava

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## Summary

Graduate researcher with proven expertise in survey methodology, causal inference, and advanced statistical modeling. Currently conducting geospatial epidemiological research at the University of Michigan's Institute for Social Research, developing stratified analytical frameworks for large-scale census tract data with complex missing data patterns. Published survey research in peer-reviewed venues (Springer) and presented at AAPOR on transformer-based sentiment analysis methodologies. Academic background combines rigorous statistical training with practical survey research experience, achieving Dean's Fellowship recognition. Research interests focus on integrating large language models and generative AI into survey data science, leveraging deep learning architectures, transformer-based methods, and computational approaches to advance automated data collection, sentiment analysis, and survey response quality assessment through doctoral research.

## Education

### University of Maryland, College Park

Aug 2024 - May 2026

Master of Science, Survey and Data Science, Data Science Track (GPA: 3.792/4.0)

College Park, MD, USA

- **Achievements:** Dean Fellowship Award Winner AY 2025-26
- **Coursework:** Statistical Modeling and Machine Learning I & II, Fundamentals of Data Collection I & II, Experimental Design and Causal Inference, Fundamentals of Computational Data Display, Long-Context Language Models, Machine Learning for Social Science, Applied Sampling

### Birla Institute of Technology and Science (BITS) Pilani

Nov 2020 - Jul 2024

Bachelor of Engineering (Honours), Civil Engineering (Minor: Data Science) (GPA: 3.327/4.0)

Pilani, RJ, India

- **Coursework:** Foundations Of Data Science, Object Oriented Programming, Applied Statistical Methods, Fluid Mechanics, Construction Plan & Tech, Analysis of Structures, Artificial Intelligence, Human Resource Development, Technical Report Writing, Computer Programming, Principles of Management, Electrical Sciences, Machine Learning, Mathematics (I, II and III), Operating Systems, Probability & Statistics, Business Communication, Engineering Graphics, Data Mining, Data Visualization

## Professional Experience

### Institute for Social Research, University of Michigan | Research Assistant

May 2025 - Present

- Engineered end-to-end geospatial epidemiological pipeline **processing 129,572 census tracts across 3 RUCA strata**, achieving 100% broadband data completeness through multi-source integration and **resolving 28.6% baseline missingness** via composite measure imputation.
- Developed a stratified COVID-19 incidence **modeling framework on 2,788 tract-level observations** with 100% social determinant coverage and 59.9% broadband completeness, revealing opposite broadband effects (12.5% higher metro vs. 14% lower rural incidence) and non-linear rural inflections at 500 connections per 1,000 households.
- Implemented multi-stage data quality assurance protocol including Moran's spatial clustering analysis, temporal coverage validation (85% of tracts more than 95% complete), and RUCA-stratified completeness assessment **revealing balanced 61.7% broadband availability** across geographic strata.

### University of Maryland | Teaching and Graduate Assistant

Feb 2025 - Jul 2025

- Assisted **Dr. Drechsler from Institute for Employment Research** in teaching SURV735, effectively guiding 23 students in understanding data privacy and confidentiality principles.
- Coordinated **Canvas courses** for JPSM, supporting 10+ instructors and boosting course satisfaction by 65%.

### Legistify Services Private Limited | Machine Learning Engineer

Jan 2024 - Jun 2024

- Developed a logo-recognition algorithm for a 2.4M-image dataset **achieving 92% accuracy**, and launched a FastAPI service that **improved performance by 30%**, demonstrating hands-on experience in machine learning model development.
- Integrated and analyzed data from **150+ API calls** with a **95% success rate**, enhancing data-retrieval efficiency by 45% and reinforcing core competencies in data analytics and ML using Python.

### Accenture | Advanced Application Engineering Analyst

Jun 2023 - Aug 2023

- Assessed 50+ systems to identify and **mitigated 250+ critical vulnerabilities** with 89% accuracy, showcasing strong analytical skills relevant to statistical modeling and data analytics.
- Monitored threat feeds and analyzed logs during 10+ incidents, **accelerating recovery by 80%** and reducing mean time to detect (MTTD) **by 50%**, aligning with operational resilience in cloud computing environments.

### Indian Red Cross Society | Web Developer

May 2022 - Jul 2022

- Designed and tracked KPIs while optimizing Google AdWords campaigns, leading to a **40% ROI increase** and demonstrating strong analytical and performance measurement skills.
- Implemented a Drupal CMS for 1K users and revamped an **internal tracking system for 125 employees**, improving efficiency by 37% and reducing load/save times by 20%, exemplifying effective project execution and technical proficiency.

## Publications and Projects

**Achieving Sustainability in Supply Chain during Disruption Times: Role of Industry 4.0** Aug 2023 - Feb 2024  
Advances in Data-Driven Computing and Intelligent Systems

### Springer

- Conducted a qualitative survey with 200+ industry experts, identifying key Industry 4.0 technologies and green supply chain practices that can **improve sustainability by 45%** during disruption times.
- Utilized fuzzy set analytical hierarchy process and interpretive structural modeling to establish cause-and-effect relationships, enhancing overall **supply chain efficiency by 35%**.

**Analyzing Public Sentiments of EVs in the Era of Sustainable Transformation**

Nov 2024 - May 2025  
AAPOR Conference

### AAPOR

- Created a transformer-based sentiment analysis model using PyTorch, achieving **92% accuracy** in analyzing 1M+ social media posts, identifying public perception trends towards electric vehicles.
- Applied advanced fine-tuning strategies and multimodal data preprocessing techniques, improving **model performance efficiency by 85%**.

**Transformer-Based Innovations in Internet Traffic Analysis and Scalable Energy Forecasting**

### BITS Pilani

- Deployed and optimized advanced transformer-based models, achieving 97.8% classification accuracy in internet traffic analysis and **98% reliability in solar energy prediction**, showcasing the adaptability and effectiveness of cutting-edge architectures in diverse domains.
- Demonstrated scalable solutions with 97% model size reduction for efficient traffic classification and improved solar energy **forecasting accuracy by 18%** for 500K+ data points, while maintaining 99.9% uptime under real-world conditions, handling over 10K+ requests/hour.

## Technical Skills

- Programming & Web Technologies:** Python3, R, Java, C++, C, Go, JavaScript, TypeScript, HTML/CSS, Bash/Shell
- Data & Databases:** SQL (MySQL, PostgreSQL), NoSQL (MongoDB, Cassandra), Snowflake, Neo4j, Pinecone, Apache Spark, Kafka
- AI/ML Frameworks & Libraries:** PyTorch, TensorFlow, Keras, Hugging Face, LangChain, LlamaIndex, LangGraph, PySpark, NLTK, Spacy, SkLearn
- Development & DevOps:** Git, Docker, Kubernetes, Jenkins CI/CD, REST APIs, Django, Flask, Angular, React.js, Node.js, Express.js, Terraform, Ansible, JIRA, Power Automate, Appian
- Cloud & Analytics:** AWS (EKS, S3, EC2, Lambda, Sagemaker, API Gateway), Azure, GCP, Tableau, Power BI, MLFlow, Salesforce, Asana, Qualtrics, STATA
- Core Competencies:** LLMs, Generative AI, RLHF/DPO, Deep Learning, NLP, Computer Vision, GNNs, MLOps, Distributed Training, DSA, DBMS, OOPS

## Extracurricular

**Terrapin Leadership Institute**

Aug 2024 - May 2025

*Member*

- Achieved 100% participation in collaborative workshops on leadership styles, ethics, inclusion, and resilience.
- Enhanced group dialogue quality by contributing reflective insights in 90%+ of sessions, fostering more inclusive and engaging discussions among peers.

**NSS (National Service Scheme), BITS Pilani**

Mar 2022 - Dec 2023

*Executive Committee and Blood Donation Camp (BDC) Core Team Member*

- Planned **10+ activities** that are designed to improve English language skills and boost student confidence in villages around the campus as part of NSS BITS Pilani's English and Personality Development Department which aims to promote English study and virtue.
- Organized a Blood donation camp by preparing schedule for 60+ volunteers and handled the BMI data of 1000+ donors. **Achieved 844 successful donations** within 2 days.

**Peer Mentorship Program (PMP), BITS Pilani**

Aug 2021 - Dec 2023

*Mentor*

- Assisted Juniors with advice and materials to ensure they have a smooth transition into college life and succeed academically.

## Certifications

- Microsoft Certified: Azure AI Fundamentals
- API based Programming : Postman
- AI For Everyone, Foundations: Data, Data, Everywhere
- Deep Learning, Machine Learning and Data Science : Smartknower and Internshala

## Achievements

- Secured 1st rank in Human Resource Development course consisting of 180 students:** BITS Pilani
- Amongst top 10 students out of 98 in Water and Wastewater Treatment course:** BITS Pilani
- JPSM Dean's Fellowship Award:** AY 2025-26, University of Maryland, College Park