

Priyanka Gautam

Ph.D. Student at Kansas State University, Kansas, USA
Kansas, United States Portfolio

🔗 Priyankagautam08 in priyankagautam08 ✉ priyankagautam099@gmail.com ☎ +1 7853178301

Education

2022- Current **Ph.D. in Electrical & Computer Engineering**, Kansas State University, USA
(GPA: 3.9/4) [Expected Graduate -December 2025]
2017 - 2019 **Masters in Computer Science & Engineering**, IIT Gandhinagar, India (CGPA: 7.6/10)
2012 - 2016 **B.Tech in Information Technology**, AKTU University, India (75%)

Professional Experience

2021 - 2022 **Data Science Analyst | Accenture Applied Intelligence**
Gurugram, India

- **Workforce Planning & Optimization Strategy:** Developed an automated tool to optimize workforce by analyzing job roles, hiring patterns, and market trends. Used Python, NLP, data analytics, machine learning, and Power BI for workflow planning.
- **New Workforce Strategy:** Contributed to research on task categorization and intelligent augmentation, providing AI/ML and Python support.

2019 - 2021 **Data Science Consultant | Eclerx Service Ltd.**
Mumbai, India

- **NLP Projects:** Developed automated tools for loan document extraction and classification modeling. Used regex, K-means, and clustering algorithms for PDF document information extraction.
- **HR Projects:** Created a Flask-based API for Resume Parsing & Ranking, employing a hybrid NLP model (NER model + Spacy).
- **Image Processing:** Designed an API for person image classification into front-face, upper-body, and full-body segments using YOLOv3.
- **Client Project - Morgan Stanley:** Built an ETL pipeline for data extraction and compatibility for pricing predictions from Data lakes and Hadoop clusters.

Technical Skills

Programming Python, C++, MATLAB
Tools TensorFlow, PyTorch, Scikit-learn, AutoCAD, SolidWorks
Languages English (fluent), Hindi (native), Telugu (intermediate)

Certifications

2020 **Machine Learning Specialist**
Issued by LinkedIn Learning
[Certificate]

2020 **Dataiku Core Designer**
Issued by Dataiku
[Certificate]

Research Experience

2022 - Current **GRA | Kansas State University**, Kansas, USA

- Developing a graph-theoretic framework to study the relationship between interdependent critical infrastructure to pinpoint critical assets and links to build resilience & robustness - **GRA NSF Grant**.
- Collaborating with researchers from PNNL to identify influential nodes in dynamic networks using deep learning and reinforcement learning techniques - **PNNL**.
- Collaboration project on Inferring Network Structure in Models of Opinion Dynamics- **AMS MRC 2023**.

2017 - 2019 **TA + RA | IIT Gandhinagar**, Gujarat, India

- Thesis: Crowd Counting and Monitoring in a Surveillance System
- Proposed crowd monitoring solution for Rath Yatra using GPS and sensors. Developed a web-based system for traffic prediction with JavaScript, HTML, and Google Maps API.
- Provided rebar counting solution for TATA INNOVERSE in the steel industry.
- Explored state-of-the-art models and developed an innovative approach using depth images for object detection and counting.

Publications

1. P. Gautam, A. Sreejith, and B. Natarajan, "A Transductive Graph Neural Network learning for Grid Resilience Analysis," 2023 IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm), Glasgow, United Kingdom, 2023, pp. 1-6, doi: 10.1109/SmartGridComm57358.2023.10333912. [Link]
2. P. Gautam and B. Natarajan, "GNN-based Criticality Analysis in Interconnected Infrastructure Networks," 2024 IEEE Green Technologies Conference (GreenTech), Springdale, AR, USA, 2024, pp. 213-217, doi: 10.1109/GreenTech58819.2024.10520547. [Link]

Talks & Conferences

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| 2023 | AMS MRC on Complex Social Systems [Beaver Hollow Conference Center, New York]
Group Presentation: Inferring Network Structure in Models of Opinion Dynamics |
| 2023 | ARISE Annual Symposium [Wichita State University, Wichita]
Poster Presentation: GNN-based ML framework for Scalable Resilience Computation with Uncertainties |
| 2024 | JMM Joint Mathematics Meeting [Mascon Center, San Diego, CA]
Progress Group Session: MRC Social Week |
| 2024 | IEEE GreenTech Conference [Holiday Inn, Springdale, Arkansas]
Conference Paper Presentation: GNN-based Criticality Analysis in Interconnected Infrastructure Networks |
| 2024 | NSF-EPSCoR ARISE Annual Symposium [Kansas State University, Olathe]
Poster Presentation: Critical Nodes/Link Identification in Interconnected Systems |
| 2024 | 3MT Talk at Kansas State University, Olathe [Kansas State University, Olathe]
Presentation: Ensuring the Heartbeat of Our City: Strategic System Hardening for Infrastructure Networks |