Rushit N. Shah

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Objective: PhD candidate passionate about solving problems in **deep reinforcement learning** and **multiobjective optimization**.

Education

Computer Science, *Doctor of Philosophy* 2018 - 2025

University of Illinois, Chicago, IL GPA: 3.85

Work Experience

iManage Inc., *Data Science Intern* (**Chicago**, **IL**) May 2021 - Aug 2021

- Deployed state-of-the-art LLMs to build a document search and extraction API, leveraging semantic similarity.
- Designed a hierarchical search strategy, improving speed and accuracy.
- **Tools**: Python, Flask, Huggingface, Weaviate, GraphQL.

Recent Publications

[1] **Rushit N. Shah**, Nikolaos Agadakos, Synthia Sasulski, Ali Farajzadeh, Sanjiban Choudhury, Brian D. Ziebart, "Value-Aligned Imitation via Focused Satisficing," *NeurIPS Pluralistic Alignment Workshop*, 2024.

[2] **Rushit N. Shah**, Brian D. Ziebart, "Minimally Subdominant Decision Transformer," *AAAI Spring Symposium*, 2024.

[3] Saket Srivastava, **Rushit N. Shah**, Catalin Teodoriu, "NLP-based Information Extraction for Fault Detection," *Geothermal Resources Council Trans.*, vol. 45, 1311-1323. 2021

[4] Saket Srivastava, **Rushit N. Shah**, Catalin Teodoriu, and Aditya Sharma, "Impact of Data Quality on Classification Algorithms," *Journal of Petroleum Science and Engineering*, vol. 219, 111058. 2022

Research Projects

Resolving Causal Confusion via Robust Imitation Learning

- Developed a probabilistic approach combining inverse reinforcement learning with robust optimization, balancing safety and performance. [**Tools**: Python, PyTorch, OpenAI Gym].

Object Detection for VR-based Teleoperation

- Used RGB and depth data to train a CNN for object detection in VR-based teleoperation systems. [**Tools**: OpenCV, Python, Unity VR, ROS].

Aircraft Fault Detection Using Self-Organizing Maps

- Created a SOM-based pipeline to forecast failures in aircraft, outperforming SVM and neural networks. [**Tools**: Python, MATLAB].

Intent Prediction from Text

- Designed an LSTM classifier for intent detection in textual data, achieving 20 p.p. higher F1 scores. [**Tools**: Python, TensorFlow].

Skills

Programming Languages: **Python**, GraphQL, SQL, C++/C#, Java.
Frameworks/Libraries: PyTorch, Pyro, HuggingFace, Flask, Scikit-learn.

Relevant Coursework

Mathematics of Artificial Intelligence | Statistical Pattern Recognition | Probabilistic Machine Learning | Unsupervised Learning | Computer Vision.