

SARANYA VENKATRAMAN

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EDUCATION

- The Pennsylvania State University**, University Park, PA, USA *Aug 2018 - Present*
PhD Student - [PIKE Lab](#)
College of Information Science and Technology (IST)
- New York University**, New York City, NY, USA *Jan 2020 - Present*
Visiting Scholar - [ML²Lab](#)
Courant Institute of Mathematical Sciences (CIMS)
- GB Pant Engineering College**, New Delhi, India *Aug 2012 - July 2016*
BTech in Computer Science & Engineering

INTERESTS

Natural Language Generation (NLG), Machine Learning (ML), DeepFake Text Detection, Authorship Attribution, Reinforcement Learning (RL), Computational Cognitive Modeling

RESEARCH INTERNSHIPS

- Google LLC, New York, NY** May-Aug 2020
Research Intern - Google Assistant
- Built a stateful Soft Actor Critic (RL) based recommender dialog agent that interprets user preferences and suggests items from a marketplace using TF-Agents.
 - Conducted ablation studies with agent actions, observations and data simulation techniques to populate a continuous space marketplace using Google Vizier for hyperparameter tuning.
- Samsung Research America (SRA), Mountain View, CA** May-Aug 2018
Intern - Artificial Intelligence Center
- Developed a rule-based components extraction algorithm based on nested parsing of constituency-based syntax trees derived from natural language utterances.
 - Implemented a semantic search based intent-to-action mapper using an ensemble of a short sentence similarity service and Glove word embeddings. Deployed as a web service (REST API) and integrated end-to-end with mobile devices using Bixby Capsule SDK.
- Cadence Design Systems, Inc., San Jose, CA** May-Aug 2017
Machine Learning Intern - Machine Learning Team (now MAGESTIC), R&D Center
- Set up feature extraction and machine-learning pipelines for Cadence's proprietary layout images.
 - Developed a proof of concept for hierarchical clustering & assisted-predictive labeling on custom-built dataset.
 - Achieved an accuracy of 75% for 4 levels of abstraction on using ensemble of wavelet transformations with density based clustering approaches.

PUBLICATIONS

Saranya Venkatraman, Nafis Irtiza Tripto, and Dongwon Lee. “[CollabStory: Multi-LLM Collaborative Story Generation and Authorship Analysis](#).” ArXiv Pre-print 2024.

Saranya Venkatraman, Adaku Uchendu, and Dongwon Lee. “[GPT-who: An Information Density-based Machine-Generated Text Detector](#).” NAACL Findings 2024.

Nafis Irtiza Tripto, **Saranya Venkatraman**, Dominik Macko, Robert Moro, Ivan Srba, Adaku Uchendu, Thai Le, and Dongwon Lee. “[A Ship of Theseus: Curious Cases of Paraphrasing in LLM-Generated Texts](#).” ACL 2024.

Eric Xing, **Saranya Venkatraman**, Thai Le, and Dongwon Lee. “[ALISON: Fast and Effective Stylometric Authorship Obfuscation](#).” AAAI 2024.

Tricia J. Ngoon, Sushil S, Angela E.B. Stewart, Ung-Sang Lee, **Saranya Venkatraman**, Neil Thawani, Prasenjit Mitra, Sherice Clarke, John Zimmerman, and Amy Ogan. “[ClassInSight: Designing Conversation Support Tools to Visualize Classroom Discussion for Personalized Teacher Professional Development](#).” CHI 2024.

Pranav Venkit, Mukund Srinath, Sanjana Gautam, **Saranya Venkatraman**, Vipul Gupta, Rebecca J. Passonneau, and Shomir Wilson. “[The Sentiment Problem: A Critical Survey towards Deconstructing Sentiment Analysis](#).” EMNLP 2023.

Saranya Venkatraman, He He, and David Reitter. “[How do decoding algorithms distribute information in dialogue responses?](#)” EACL Findings 2023.

Saranya Venkatraman, Prasenjit Mitra, Sherice N. Clarke, Andrea Gomoll, Zaynab Gates, Sushil S., Tarang Tripathi, and Amy Ogan. “[ClassInSight: Automating Analysis of Classroom Discussions to Support Teacher Noticing and Reflection on Dialogic Pedagogy](#).” EARLI 2021.

Greeshma Sharma, **Saranya Venkatraman**, and Virender Singh. “[Ambiguity in Semantic Integration: A decomposition analysis by ERP](#).” International Journal of Engineering Sciences & Technology 2277-9655 (2016).

Greeshma Sharma, **Saranya Venkatraman**, et al. “[Artificial Neural Network in Virtual Reality: A Survey](#).” International Journal of Virtual Reality. 15 (02): 44-52 (2015).

TUTORIALS

Adaku Uchendu, **Saranya Venkatraman**, Thai Le, Dongwon Lee. “[Catch Me If You GPT: Tutorial on Deepfake Texts](#).” NAACL 2024.

Adaku Uchendu, Vladislav Mikhailov, Jooyoung Lee, **Saranya Venkatraman** et al. “[Tutorial on Artificial Text Detection](#).” INLG 2022.

TECHNICAL SKILLS

Computer Languages	Python, JavaScript, C/C++, MATLAB, R
Packages & Tools	PyTorch, Transformers, Tensorflow, TF-Agents, Keras, Flask, SciPy, Scikit-learn, Pandas, NumPy, Firebase

SERVICE & RECOGNITION

Graduate Student Award for Excellence in Teaching Support	2023-2024
Tutor & Mentor for NSF Research Experiences for Undergraduates (REU)	2023-2024
Secretary for Graduates in IST (GIST), Graduate Student Organization	2020-2021