ATULA TEJASWI NEERKAJE

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EDUCATION

Manipal Institute of Technology — Manipal, India
Bachelor of Technology (B.Tech) in Computer Science and Engineering, CGPA: 9.50 — Expected 2023

Little Rock Indian School — Brahmavar, India
All India Senior School Certificate Examination (AISSCE), 95.2% — 2005-2019

INTERESTS

Artificial Intelligence, Machine Learning, Deep Learning, Reinforcement Learning, Natural Language Processing, Privacy Preserving Machine Learning, Computational Social Science.

PUBLICATIONS

- Ramit Sawhney*, **Atula Tejaswi Neerkaje***, Ivan Habernal, and Lucie Flek. How Much User Context Do We Need? Privacy by Design in Mental Health NLP Applications. In *Proceedings of the International AAAI Conference on Web and Social Media (ICWSM)*, 2023.
- Puneet Mathur, **Atula Tejaswi Neerkaje**, Malika Chhibber, Ramit Sawhney, Fu-Ming Guo, Franck Dernoncourt, Sanghamitra Dutta, Dinesh Manocha. MONOPOLY: Financial Prediction from Monetary Policy Conference Videos Using Multimodal Cues. In *Proceedings of the 28th ACM International Conference on Multimedia (ACMMM)*, 2022.
- Ramit Sawhney*, Shivam Agarwal*, **Atula Tejaswi Neerkaje***, Nikolaos Aletras, Preslav Nakov, and Lucie Flek. Towards Suicide Ideation Detection Through Online Conversational Context. In *Proceedings of the 45th International ACM SIGIR Conference on Research and Development in Information Retrieval*, 2022. **[code]**
- Victor Petrén Bach Hansen*, **Atula Tejaswi Neerkaje***, Ramit Sawhney, Lucie Flek, and Anders Søgaard. The Impact of Differential Privacy on Group Disparity Mitigation. *The Fourth Workshop on Privacy in Natural Language Processing (PrivateNLP)*, 2022. **[code]**
- Ramit Sawhney*, **Atula Tejaswi Neerkaje***, and Manas Gaur. A Risk-Averse Mechanism for Suicidality Assessment on Social Media. In *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (ACL)*, 2022.
- Ramit Sawhney*, Shivam Agarwal*, **Atula Tejaswi Neerkaje***, Kapil Pathak*. Orthogonal Multi-Manifold Enriching of Directed Networks. In *Proceedings of the International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2022. **[code]**

*indicates equal contribution

EXPERIENCE

Research Intern — June 2022 - Aug 2022
Université du Québec à Montréal — *Montréal, Canada*
Supervised by **Prof. Marie-Jean Meurs** on an AI-based system for anonymization in corpora of personal data, such as in the legal domain and in the mental health domain.

- Worked on combining adversarial training with differential privacy for obfuscation of implicit indicators of private information and authorship attributes, in order to release readable, anonymized versions of the corpora for downstream tasks. Explored Named Entity Recognition and other pseudo-anonymization strategies as part of the pipeline.

External Collaborator Jan 2021 - Present
Conversational AI and Social Analytics (CAISA) Lab, University of Marburg *Germany (Remote)*
Working with **Prof. Lucie Flek** and **Ramit Sawhney** on user-contextual modeling and privacy preservation, mainly for NLP and Computational Social Science problems.

- Implemented neural network architectures which included Transformers, Graph Neural Networks, and Hyperbolic Neural Networks for these tasks.
- Mined and modeled user-contextual information such as discourse threads and user post history.
- Studied the impact of differential privacy (DP-SGD) on model fairness and on user-contextual modeling.

AI Division Member Feb 2020 - Aug 2022
Project MANAS *Manipal, India*
The official AI and Robotics team of MIT Manipal, with a team primarily dedicated to building an autonomous car for Indian roads. The team also works on autonomous UAVs.

- Set up a deep learning based lane detection module for the autonomous car, which was trained on the CULane dataset. When tested on campus roads, the approach yielded an improvement of 5% in comparison to existing pipelines.
- Integrated an iterative matching algorithm for merging LIDAR data from multiple sensors for improved dense point cloud representations.
- Designed a coverage planning algorithm for the autonomous UAV that generates waypoints to cover a given polygonal area of interest.

AWARDS

Mitacs GRI 2022
Awarded a fully-funded scholarship by Mitacs to pursue a summer research project at the Université du Québec à Montréal on anonymization and bias reduction in AI & Natural Language systems.

DAAD WISE 2022
Selected for the DAAD WISE research scholarship award for Summer 2022.

AUVSI SUAS 2022
Project MANAS was placed 2nd in the Flight Readiness Review (FRR) category at the AUVSI SUAS 2022 competition held in Maryland, USA. Overall, MANAS was placed 18th out of 72 teams.

Mahindra Rise Prize Challenge
Project MANAS won the Million Dollar Mahindra Rise Prize Challenge, placed top 13 out of 153 teams in India.

PROGRAMMING SKILLS

Languages	Python, C, C++, Java
Libraries and Frameworks	PyTorch, Tensorflow, Deep Graph Library (DGL), Keras

CERTIFICATIONS

Welcome to Game Theory - Coursera (2021), Bayesian Statistics: From Concept to Data Analysis - Coursera (2020), Reinforcement Learning Specialization - Coursera (2020), Mathematics for Machine Learning - Coursera (2020).

ACTIVITIES

Nov 2021	-	Feb 2022	Reviewer and volunteer at AISTATS 2022
Aug 2020	-	Sep 2021	Association for Computing Machinery, Manipal Chapter
Sep 2019	-	Sep 2020	The Photography Club, Manipal
Aug 2019	-	Present	Linux Users Group, Manipal
			I play the Carnatic Violin. Football and Tennis are also my hobbies.