

Manan Suri

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EDUCATION

- University of Maryland, College Park** 2024 - Present
 - Masters of Science - Computer Science*
- Netaji Subhas University of Technology, New Delhi** 2020 - 2024
 - Bachelor of Technology - Computer Science and Engineering*
 - CGPA: 8.99
- K.R. Mangalam World School, New Delhi** 2016 - 2020
 - Higher Secondary Education*
 - Class 12th - 97.2%, Class 10th - 96.6%

TECHNICAL SKILLS

- Languages:** Python, Java, C++, C, Javascript,HTML/CSS, SQL
- Skills:** Machine Learning, Deep Learning, Natural Language Processing, Full Stack Web Development, Database Management
- Tools & Technologies:** Scikitlearn, Pytorch, NumPy, Pandas, Flask, Node, React, Express, MongoDB, MySQL

EXPERIENCE

- University of Warwick, United Kingdom** June 2023 - Aug 2023
 - Data Science for Social Good Fellow*
 - Constructed advanced, replicable pipelines for training, experimentation, and inference, leveraging Deep Learning to devise an innovative system that identifies and mitigates greenwashing in multi-modal social media content, spanning text, video, and image elements.
 - Worked in close collaboration with the Algorithmic Transparency Institute and environmental specialists to understand project needs. Developed tailored strategies to promote the use of ethical and transparent algorithms crucial in combating greenwashing and supporting sustainability in the digital content space.
- Scalenut, New Delhi, India** Dec 2022 - Jan 2023
 - Data Science Intern*
 - Lead the development of advanced analytical tools leveraging Large Language Models (LLMs), notably designing a high-performing fact annotator to enhance the capabilities of the Cruise Mode product.
 - Initiated and successfully implemented optimization strategies for document ranking and retrieval functions, resulting in improved accuracy and efficiency across multiple products.
- Northeastern University** Apr 2022 - Jan 2023
 - Research Intern*
 - Conducted in-depth research on various significant themes such as Depressive Tendencies, Trigger Warnings, and Fine-grained Sexism Detection, demonstrating analytical capabilities in understanding and addressing critical societal issues, some of this work is published in workshops at top conferences including AAAI 2023, ACL 2023.
 - Efficiently managed four distinct research teams, demonstrating leadership skills and proficiency in coordinating and executing complex research projects.

SELECT PUBLICATIONS

2023

- CoSyn: Detecting Implicit Hate Speech in Online Conversations Using a Context Synergized Hyperbolic Network**
Sreyan Ghosh, Manan Suri*, Purva Chiniya, Utkarsh Tyagi, Sonal Kumar, and Dinesh Manocha (EMNLP 2023)
 - Developed CoSyn, an innovative neural network model, to detect implicit hate speech in online conversations by incorporating user- and conversational-contexts. CoSyn addresses the gap in existing approaches that mainly focus on explicit hate speech, providing a valuable solution for the evolving landscape of online communication.
 - Introduced novel techniques for context encoding and a unique context interaction mechanism to capture the interplay between different contexts. CoSyn operates in the hyperbolic space, adapting to the scale-free dynamics of social media, showcasing a forward-looking approach in hate speech detection.

- Demonstrated CoSyn's superior performance on 6 hate speech datasets, achieving absolute improvements in the range of 1.24% - 57.8% compared to baseline models. Published at EMNLP 2023, the paper contributes significantly to the field, and the code is publicly available on GitHub for further exploration and adoption.

EMNLP 2023 Paper

GitHub : MananSuri27/CoSyn

- **ACLM: Selective-Denoising based Generative Data Augmentation for Low-Resource Complex NER**

Sreyan Ghosh, Utkarsh Tyagi, Manan Suri, Sonal Kumar, Ramaneswaran S, and Dinesh Manocha (ACL 2023)

- In the context of Complex Named Entity Recognition (NER), created ACLM, a novel data augmentation approach aimed at conditional generation to cope with data scarcity in low-resource complex NER.
- Successfully addressed the context-entity mismatch issue, common in existing NER data augmentation techniques. ACLM builds on BART and is refined based on a novel text reconstruction / denoising task using selective masking to preserve named entities and contextually relevant keywords in the input sentence.
- Achieved superior performance than the existing models, managing an increase in effectiveness by a significant margin of 1%-36% across various low-resource settings for monolingual, cross-lingual, and multilingual complex NER.

Publication accepted at ACL 2023

GitHub : MananSuri27/ACLM

2022

- **Patronising and Condescending Language Detection**

Manan Suri (NAACL 2022)

- Patronizing and Condescending Language (PCL) in the context of vulnerable communities refers to language that portrays a sense of superiority or has a tendency to view communities with a pitiful and passionate lens.
- The approach involved finetuning on pre trained models- BERT, ALBERT, DistilBERT, RoBERTa and working with token separated metadata. This project also explored different class imbalance techniques.
- Ranked amongst the top 50% of participants, achieving an F1 score of 0.513.

Publication accepted at SemEval 2022 colocated with NAACL 2022

GitHub : MananSuri27/PatronisingAndCondescendingLanguage

PROJECTS

- **Asatya — Fake News Browser Extension:** Machine Learning, NLP, Web Scraping, Web Development
 - * Developed a robust suite of machine learning-based tools aimed at combating the spread of fake news.
 - * Designed the system to generate key metrics for any given news item, including measures of reliability, biasness, and objectivity. Additionally, implemented functionality to provide users with a concise summary of the news report and recommendations for similar yet reliable news headlines.
 - * Tech Stack - *Flask, beautifulsoup4, pandas, tinydb, scikitlearn, joblib, react* (January '22)
- **Article — Comprehensive NLP Suite for Web Article Analysis:** Machine Learning, NLP, Web Scraping, LLM Deployment
 - * Developed an innovative tool for extracting and structuring information from web articles, utilizing heuristic techniques and a wide array of NLP techniques such as Entity Recognition, N-gram analysis, keyword extraction, extractive summarization and text classification for comprehensive article analysis.
 - * Incorporated advanced features like similar data mining, media bias detection, factuality checks and querying with Language representation models, providing a powerful content verification apparatus and enabling a broad range of media research applications.
 - * Tech Stack - *Flask, beautifulsoup4, pandas, RAKE, YAKE, scikitlearn, joblib, OpenAI* (February'23)

ALL PUBLICATIONS

- **Doc2Command: Furthering Language Guided Document Editing**
Manan Suri, Puneet Mathur, Ramit Sawhney, Preslav Nakov, and Dinesh Manocha (Tiny Papers @ ICLR 2024)
- **CoSyn: Detecting Implicit Hate Speech in Online Conversations Using a Context Synergized Hyperbolic Network**
Sreyan Ghosh, Manan Suri, Purva Chiniya, Utkarsh Tyagi, Sonal Kumar, Dinesh Manocha (EMNLP 2023)
- **ACLM: A Selective-Denoising based Generative Data Augmentation Approach for Low-Resource Complex NER**
Sreyan Ghosh, Utkarsh Tyagi, Manan Suri, Sonal Kumar, Ramaneswaran S, Dinesh Manocha (ACL 2023)
- **The Geometry of Multilingual Language Models: An Equality Lens**
Cheril Shah, Yashashree Chandak, Manan Suri (Tiny Papers @ ICLR 2023)

- **WADER: A Weak-labelling framework for Data augmentation in Text Regression Tasks**
Manan Suri, Aaryak Garg, Divya Chaudhary, Ian Gorton, Bijendra Kumar (SemEval-2023)
- **Multimodal Analysis and Modality Fusion for Detection of Depression from Twitter Data**
Nalin Semwal, Manan Suri, Divya Chaudhary, Ian Gorton, Bijendra Kumar (AI4SG at AAAI 2023)
- **I Don't Feel so Good! Detecting Depressive Tendencies Using Transformer-Based Multimodal Frameworks**
Manan Suri, Nalin Semwal, Divya Chaudhary, Ian Gorton, Bijendra Kumar (MLNLP '22)
- **Multilingual Protest Event Detection using Transformer-based Models**
Manan Suri, Krish Chopra, Adwita Arora (CASE 2022)
- **A novel multimodal dynamic fusion network for disfluency detection in spoken utterances**
Sreyan Ghosh, Utkarsh Tyagi, Sonal Kumar, Manan Suri, Rajiv Ratn Shah (arXiv preprint arXiv:2211.14700)
- **Boosting Pre-trained Language Models with Task Specific Metadata and Cost Sensitive Learning**
Manan Suri (SemEval-2022)
- **Multimodal BERT for Identifying Claims in Tweets**
Manan Suri, Prajeet Katari, Saumay Dudeja (CLEF 2022)

AWARDS AND ACHIEVEMENTS

- Research papers accepted at top conferences including **ACL**, **AAAI** and **NAACL**.
- **Adobe Career Academy** - Selected to be a part of the first Adobe Career Academy cohort by Adobe India.
- **TechForGood Hackathon** - Won **First Prize** amongst 3000 participants from over 36 countries.
- **KVPY** - Secured **AIR 159** amongst 150k students and was offered the fellowship by IISc Bangalore
- **JEE Advanced** - Secured **AIR 4290** among 150k students qualified from 1.5 million initial applicants
- **JEE Mains** - Secured **AIR 7172** among 1.5 million students with a percentile of 99.36.
- **Student of the Year, 2019** - Awarded by the **Times of India**, India's leading newspaper publication.
- **Chairman's Medal** for exemplary performance in academics throughout grades VI-XII.

EXTRA-CURRICULAR

- Coordinating Project Agni which aims to build products by upcycling firehoses and empowers women in the process.
- Director, Technical at Enactus NSUT.
- Parliamentary Debating Mentor at The Debating Society of NSUT.
- Head Boy 2019-20, K.R.Mangalam World School.
- Founding President of TED-Ed Club at my highschool, K.R. Mangalam Worls School.