Gopichand Kanumolu

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Education

International Institute of Information Technology Hyderabad (IIIT-H)
Master of Science by Research in Computer Science Engineering   *- CGPA: 9.5/10*   *Jan 2022 - Jun 2024*

Rajiv Gandhi University of Knowledge Technologies, Nuzvid
Bachelor of Technology in Electronics & Communication Engineering   *- CGPA: 8.59/10*   *Aug 2015 - May 2019*

Experience

AI Researcher   Aug 2024 - Present
TCS Research   *Hyderabad, India*

- Developed a novel LLM hallucination detection system that outperforms current state-of-the-art methods by 30%.
- Designed a multi-agent system to generate product business ideas from patents using the CrewAI framework.
- Evaluated biases in LLMs across multiple categories, benchmarked models using diverse datasets and metrics.
- Published research papers and filed patents in collaboration with cross-functional teams.

ML Mentor   Apr 2024 - Aug 2024
TalentSprint   *Hyderabad, India*

- Mentored over 200 industry professionals in building and evaluating an advanced RAG system.
- Evaluated assignments and hackathons on Python, ML, DL, and NLP for the AI/ML course.

NLP Research Assistant   Jan 2022 - Jun 2024
IIIT Hyderabad   *Hyderabad, India*

- Published four research papers as part of my master's thesis under the supervision of Prof. Manish Shrivastava.
- Built a large-scale dataset and fine-tuned mT5, and IndicBART models for headline generation in 8 Indian languages.
- Introduced a novel Telugu dataset and fine-tuned ML & BERT-based models for relevance-based headline classification.
- Improved the performance of the headline generation model up to 6% by using relevance-based headline classification.
- Built a language model metric using RNN, and BERT for sentence-level fluency evaluation across 10 Indian languages.
- Led a remote internship program; organized lectures and assignments for an Intro to NLP course with 1000+ interns.

NLP Research Intern   Dec 2019 - Nov 2021
IIIT Hyderabad   *Remote*

- Designed efficient web scrapers to collect data from 47 diverse news websites in 8 Indian languages.
- Created high-quality abstractive summarization dataset for Telugu and fine-tuned IndicBART and mT5 models.
- Built a Telugu QA pipeline combining query classification, translation, sparse retrieval, and NER for answer extraction.

Project Intern   Dec 2017 - Nov 2018
DRDO Hyderabad   *Hyderabad, India*

- Worked under the guidance of Scientist Madhuri Kartan on DSSS communication and OFDM projects.

Skills

- **Programming:** Python
- **ML & Data Science:** Scikit-Learn, NumPy, Pandas, Matplotlib, Plotly
- **NLP & Generative AI:** Transformers, LLMs, RAG, Agentic AI
- **Frameworks:** PyTorch, Huggingface, LangChain, CrewAI
- **Deployment:** Gradio, Streamlit, Git, Docker, FastAPI
- **Research:** Multi-lingual NLP, Trustworthy aspects of Gen AI

Publications

1. Ashok Urlana, **Gopichand Kanumolu**, CV Kumar, BM Garlapati, Rahul Mishra. HalluCounter: Reference-free LLM Hallucination Detection in the Wild!. Submitted to ACL ARR 2025 (Under Review).

2. **Gopichand Kanumolu**, Ashok Urlana, CV Kumar, BM Garlapati. Agent Ideate: A Framework for Product Idea Generation from Patents Using Agentic AI. Proceedings of the 2nd Workshop on Agent AI for Scenario Planning, IJCAI 2025.

3. CV Kumar, Ashok Urlana, **Gopichand Kanumolu**, BM Garlapati No LLM is Free From Bias: A Comprehensive Study of Bias Evaluation in Large Language models. Proceedings of the 5th Workshop on Bias and Fairness in AI, ECML-PKDD 2025.

4. **Gopichand Kanumolu**, Lokesh Madasu, Nirmal Surange, Manish Shrivastava. TeClass: A Relevance-based Headline Classification and Generation Dataset for Telugu. Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024).

5. Lokesh Madasu, **Gopichand Kanumolu**, Nirmal Surange, Manish Shrivastava. Mukhyansh: A Headline Generation Dataset for Indic Languages. Proceedings of the 37th Pacific Asia Conference on Language, Information and Computation (PACLIC 2023).

6. **Gopichand Kanumolu**, Lokesh Madasu, Pavan Baswani, Ananya Mukherjee, Manish Shrivastava. Unsupervised Approach to Evaluate Sentence-Level Fluency. Accepted to SEALP Workshop, IJCNLP-AACL 2023. Best Paper Award

7. Nedjma Ousidhoum, Shamsuddeen, ..., Alham Fikri Aji, **Gopichand Kanumolu**, Manish Shrivastava, Thamar Solorio et al. SemRel2024: A Collection of Semantic Textual Relatedness Datasets for 13 Languages. Findings of the Association for Computational Linguistics: ACL 2024

Patents

1. A Method and System for Reference-Free Hallucination Detection in Large Language Models. Patent Application Filed (India, US, and EPO), Priority Date: Nov 28, 2024. Inventors: Ashok Urlana, CV Kumar, **Gopichand Kanumolu**, BM Garlapati, Ajeet K Singh. Organization: TCS CTO Unit.