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Final year Ph.D. Candidate in Computer Science

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RESEARCH

Publications:

- **Graph-based Multilingual Language Model: Leveraging Product Relations for Search Relevance**, *28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining 2022 (KDD 2022, Oral), Washington D.C., USA.*
- **Hyperbolic Networks: Theory, Architectures and Applications** *3-hour Tutorial at 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining 2022 (KDD 2022), Washington D.C., USA.* Website: https://www.nurendra.me/hyperbolic-networks-tutorial/kdd-2022/ *3-hour Tutorial at 31st The Web Conference 2022 (WWW 2022), Lyon, France.* Website: https://www.nurendra.me/hyperbolic-networks-tutorial/www-2022/
- **ANTHEM: Attentive Hyperbolic Entity Model for Product Search** *15th ACM International Web Search and Data Mining Conference (WSDM 2022), Phoenix, AZ.*
- **GraphZoo: A Development Toolkit for Graph Neural Networks with Hyperbolic Geometries** *31st Companion Proceedings of the Web Conference 2022 (WWW 2022), Lyon, France.*
- **Self-supervised Short Text Modeling through Auxiliary Context Generation** *ACM Transactions on Intelligent Systems and Technology (TIST 2022).*
- **Probabilistic Entity Representation Model for Reasoning over Knowledge Graphs** *Thirty-Fifth Conference on Neural Information Processing Systems (NeurIPS 2021), Virtual.*
- **Self-Supervised Hyperboloid Representations from Logical Queries over Knowledge Graphs** *30th The Web Conference 2021 (WWW 2021), Ljubljana, Slovenia.*
- **Learning Representations for Text Classification of Indian Languages** *Masters Thesis at IIIT, Hyderabad, 2019.*
- **Neural Network Architecture for Credibility Assessment of Textual Claims** *Best Paper at 19th International Conference on Computational Linguistics and Intelligent Text Processing, 2018 (CICLING 2018, Oral), Hanoi, Vietnam.*
- **Twitter corpus of Resource-Scarce Languages for Sentiment Analysis and Multilingual Emoji Prediction** *27th International Conference on Computational Linguistics (COLING 2018), Santa Fe, New Mexico, USA.*
- **Cross-Lingual Task-Specific Representation Learning for Text Classification in Resource Poor Languages** *HAI: Workshop on Humanizing Artificial Intelligence, International Joint Conference on Artificial Intelligence, 2018 (HAI@IJCAI 2018), Stockholm, Sweden.*
- **Emotions are Universal: Learning Sentiment Based Representations of Resource Poor Languages using Siamese Networks** *19th International Conference on Computational Linguistics and Intelligent Text Processing, 2018 (CICLING 2018, Oral), Hanoi, Vietnam.*
- **Sentiment Analysis of Code-Mixed Languages leveraging Resource-Rich Languages** *19th International Conference on Computational Linguistics and Intelligent Text Processing, 2018 (CICLING 2018), Hanoi, Vietnam.*
- **Contrastive Learning of Emoji-based Representations for Resource-Poor Languages** *19th International Conference on Computational Linguistics and Intelligent Text Processing, 2018 (CICLING 2018), Hanoi, Vietnam.*
- **Automatic Normalization of Word Variations in Code-Mixed Social Media Text** *19th International Conference on Computational Linguistics and Intelligent Text Processing, 2018 (CICLING 2018), Hanoi, Vietnam.*
- **Enhanced Sentiment Classification of Telugu Text using ML Techniques** *4th Workshop on Sentiment Analysis where AI meets Psychology (SAAIP 2016), International Joint Conference on Artificial Intelligence 2016, New York City, USA.*
- **Any Time Virtual Labs: On Portable Media and as Debian Packages** *Technology for Education (T4E), 2014 IEEE Sixth International Conference on Technology for Education.*
- **Large Scale Web Page Optimization of Virtual Labs** *Technology for Education (T4E), 2014 IEEE Sixth International Conference on Technology for Education.*

Under review (Available on Arxiv):
- **Text Enriched Sparse Hyperbolic Graph Convolutional Networks**
  Journal, Submitted.
- **Pseudo-Poincaré: A Unification Framework for Euclidean and Hyperbolic Graph Neural Networks**
  Thirty-sixth Conference on Neural Information Processing Systems (AAAI 2022), Submitted.
- **Towards Practical Hyperbolic Neural Networks using Taylor Series Approximations**
  Thirty-sixth Conference on Neural Information Processing Systems (ICLR 2022), In preparation.

Research Service:
- **Workshop Organizer**
  KDD Cup 2022 Workshop: ESCI Challenge for Improving Product Search
  Website: https://amazonkddcup.github.io/
- **Program Committee**
  AAAI 2023, AAAI 2022, KDD 2022, AAAI 2021, NAACL 2021, ICDM 2020, EMNLP 2020, ACL 2020, ECIR 2019
- **Journal Reviewer**
  IEEE Transactions on Knowledge and Data Engineering (TKDE), ACM Transactions on Knowledge Discovery from Data (TKDD), Geoscience Frontiers.

EDUCATION

Year	Degree/Certificate	Institute	CGPA
2023 (expected)	Ph.D. (Computer Science)	Virginia Tech	4.0/4.0
2019	B.Tech. (Hons) & M.S. (by Research)	IIIT, Hyderabad	8.04/10.0
2013	High School (BIEAP)	FIITJEE Junior College, Hyderabad	94.2%

WORK EXPERIENCE

- **Graduate Research Assistant at Virginia Tech**   *Aug'19 - present*
  Working at Sanghani Center for Artificial Intelligence and Data Analytics on Representation Learning in Graphs.
- **Applied Scientist Intern at A9 Search, Amazon, Palo Alto, USA**   *May'22 - Dec'22*
  Working on improving search results on Amazon by leveraging hyper Knowledge Graphs.
- **Teaching Assistant at Virginia Tech**   *Aug'15 - Dec'17*
  Assisting the Professor of the courses - Deep Learning.
- **Applied Scientist Intern at A9 Search, Amazon, Bangalore, India**   *Jul'21 - Dec'21*
  Worked on improving search results on Amazon by leveraging hybrid graph and text data.
- **Applied Scientist Intern at A9 Search, Amazon, Palo Alto, USA**   *May'20 - Dec'20*
  Worked on improving search results on Amazon by leveraging product Knowledge Graphs.
- **Analyst at Goldman Sachs**   *May'18 - Aug'19*
  Quantification of Market Risk measures using MARS System. Development of Data Analytics platforms for Market Risk analysis and management.
- **Research Assistant at IIIT Hyderabad**   *May'14 - May'18*
  ***Language Technologies Research Center:** Working on Semantic Analysis and Information Retrieval of large number of Medical Documents.*
  ***Geo Technical Lab:** Developing Web interface and Data Analytics tool for the developed WaterGrid System.*
  Software Engineering Research Center: Automation of customizing Operating System for Virtual Labs.
- **Teaching Assistant at IIIT Hyderabad**   *Aug'15 - Dec'17*
  Assisting the Professor of the courses - Natural Language Processing, Structure Systems Analysis and Design & Project and Introduction to Humanities.

ACHIEVEMENTS

- **Student Awards** at WWW 2021, NeurIPS 2021, WSDM 2022 and WWW 2022.
- Won **Best Paper Award** at 19th International Conference on Computational Linguistics and Intelligent Text Processing, 2018 for the publication "Neural Network Architecture for Credibility Assessment of Textual Claims".
- Won **Paysafe Hackathon** on Machine Learning and Programming.
- **Dean's List 2017, IIIT Hyderabad**, Given for academic excellence.
- **IIIT Hyderabad Research Award 2014,2016**, Given for research contributions in respective fields.
- Won **Intuit Hackathon** on Malware Analysis.
- **Technical Expert**, Indian School of Business - Hyderabad Hackathon.