Aditya Srikanth Veerubhotla

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Language Technologies Institute, Carnegie Mellon University +1 (412) 214-2124

Education

Carnegie Mellon University Pittsburgh, USA
MS, Intelligent Information Systems - Advanced Study. Advisors: Prof. Teruko Mitamura & Prof. Jamie Callan *Aug'21 - May'23*
Courses: Advanced NLP, Advanced Multimodal ML, Question Answering, Computational Ethics, Intermediate Deep Learning
GPA: 4.07 / 4.0

Birla Institute of Technology and Science (BITS) Pilani Hyderabad, India
Bachelor of Engineering in Computer Science. Thesis Advisor: Prof. Aruna Malapati *May'16 - Aug'20*
Courses: Machine Learning, Information Retrieval, Artificial Intelligence, Data Mining
GPA: 8.79 / 10.0

Publications

[1] **A S Veerubhotla**, L Poddar, J Yin, G Szarvas, S Eswaran, **Few Shot Rationale Generation using Self-Training with Dual Teachers**, To appear in Findings of ACL'23

[2] **A S Veerubhotla***, S Agarwal*, S Bansal*, S Tripathi*, S Gururaja*, R Dutt, T Mitamura, E Nyberg, **R3 : Refined Retriever-Reader pipeline for Multidoc2dial**, DialDoc Workshop, ACL'22 [pdf]

[3] A Kumar, **A S Veerubhotla**, V T Narapareddy, V Aruru, L B M Neti, A Malapati, **Aspect term extraction for opinion mining using a Hierarchical Self-Attention Network**, Neurocomputing, 2021 [pdf]

[4] R Mitra, R Jain, **A S Veerubhotla**, M Gupta, **Zero-shot Multi-lingual Interrogative Question Generation for "People Also Ask" at Bing**, KDD'21 [pdf]

[5] A Kumar, V T Narapareddy, **V A Srikanth**, A Malapati, L B M Neti, **Sarcasm Detection Using Multi-Head Attention Based Bidirectional LSTM**, IEEE Access 2020 [pdf]

[6] A Kumar, V T Narapareddy, **A S Veerubhotla**, A Malapati, L B M Neti, **AAspect-Based Sentiment Classification Using Interactive Gated Convolutional Network**, IEEE Access 2020 [pdf]

[7] A Kumar, V T Narapareddy, P Gupta, **V A Srikanth**, A Malapati, L B M Neti, **Adversarial and Auxiliary Features-Aware BERT for Sarcasm Detection**, CoDS-COMAD 2021 [pdf]

Skills And Interests

Skills : Natural Language Processing, Prompt Engineering, Deep Learning, PyTorch, Python, Huggingface Transformers, ONNX
Interests : Large Language Models (LLMs), Question Answering, Dialogue Systems, Multimodal ML, Parameter Efficient Learning, Multilingual NLP, Code Generation, Information Retrieval

Work Experience

Amazon Science Seattle, WA
Applied Scientist Intern *May'22 - Aug'22*
- Researched on building T5 based Self-Rationalization models in a few-shot (∼100 examples/label) settings
- Proposed a novel approach that uses pseudo-labels from two teacher models trained using Self-Training (Semi-Supervised Learning) in a cascading fashion for training the final joint student model

Microsoft Bing Hyderabad, India
Applied Scientist *Jun'20 - Aug'21*
- Trained and shipped multilingual Question Generation and Grammatical Error Detection models supporting 100 languages
- Improved upon document Relevance Classification and Ranking and increased NDCG by 2.7 points
- Worked on a proof-of-concept project which became the topic highlights on People Also Ask
- Achieved 6-12x model size reduction using Distillation, Quantization and ONNX

Microsoft Bing Hyderabad, India
Undergraduate Thesis *Jan'20 - Jun'20*
- Researched on Multilingual Neural Question Generation and developed systems to enable QA generation in over 100 languages for "People Also Ask" in Bing [pdf]
- Explored using Reinforcement Learning (Self-Critical Sequence Training), Distillation and Parameter Freezing for improving performance of Question Generation

Research Projects

- **Open Domain Jupyter Notebook Code Completion Dataset :** Proposed and working on building a dataset for Jupyter Notebook code completion using reformulated markdowns as queries and a heterogeneous corpus from GitHub and StackOverflow. Advised by Prof. Eric Nyberg, Prof. Teruko Mitamura and Prof. Daniel Fried. [pdf]
- **Cross Lingual Open Domain QA :** Presented a novel approach that enables the sharing of information between the reader and retriever through a two-way knowledge distillation process. Also explored methods for improving the individual reader and retriever components using self-training and cross-lingual adaptation. Working on publishing our results. Advised by Prof. Graham Neubig. [pdf]
- **Multimodal Multihop Question Answering :** Proposed a three-stage pipeline for WebQA using a corpus-level text retriever, a novel multimodal, multihop reranker for the fine-grained retrieval of information sources and a reader model for answer generation. Advised by Prof. Yonatan Bisk. [pdf]

Honors and Awards

- 1st on UNSEEN track for MultiDoc2Dial, DialDoc Workshop in ACL, 2022
- Awarded "Best Research Talk" at Microsoft internal ML and Data Science conference, 2020, for undergraduate thesis work
- Voted "Best Team" for final project demo among 14 teams across Microsoft Garage India, 2019

Leadership and Volunteer Experience

- Teaching Assistant for Multimodal Machine Learning (Spring'23) and Advanced NLP (Fall'22) at CMU. Designed and graded course assignments and was the sole mentor to course projects of 4-5 teams.