

TANMAY PAREKH

@ tparekh@cs.ucla.edu

🌐 <https://tanmayparekh.github.io/>

in [linkedin.com/in/tanmayparekh/](https://www.linkedin.com/in/tanmayparekh/)

EDUCATION

University of California Los Angeles (UCLA)

Doctor of Philosophy in Computer Science

📅 2021-Ongoing

✅ 4.0/4.0

Carnegie Mellon University (CMU)

Master of Science in Language Technologies

📅 2019-2021

✅ 4.02/4.0

Indian Institute of Technology Bombay (IITB)

B. Tech with Honors in Computer Science & Engineering

📅 2014-2018

✅ 9.37/10

RESEARCH PROJECTS

DOMAIN-AWARE DATA GENERATION FOR ZERO-SHOT INFORMATION EXTRACTION (ONGOING)

- Utilizing LLMs to generate data for information extraction tasks to train fine-tuned downstream models
- Exploring reference-based and finetuning based methods to adapt the models to various ontologies across four different domains of news, social media, biomedical, and wikipedia.

CONTEXTUAL LABEL PROJECTION FOR CROSS-LINGUAL STRUCTURE PREDICTION

- Utilized instruction-tuned language models to perform contextual machine translation to tackle cross-lingual label projection
- Improved translate-train for Event Argument Extraction (EAE) and NER by 1-2 F1 points for 39 languages

MULTILINGUAL EVENT EXTRACTION FROM SOCIAL MEDIA FOR EPIDEMIC PREPAREDNESS

- Created the first Multilingual Event Detection framework SPEED for epidemic events in social media for 65 languages
- Demonstrated the generalization of our framework by providing early epidemic warnings for the three unseen epidemics

BENCHMARKING GENERALIZABILITY FOR EVENT ARGUMENT EXTRACTION

- Created a diverse and comprehensive ontology with 100+ event types and argument roles using expert human annotations from a semantic role labeling dataset FrameNet
- Proposed a dataset GENEVA along with four different benchmarking setups to test the generalizability of models

TOWARDS BUILDING CODE-SWITCHING CHATBOTS

- Proposed a generalized goal-oriented multilingual dialogue framework that elicits code-switching
- Experimented with various agent strategies to study user behavior. Discovered various insights about users' code-switching patterns, personal bias, and linguistic accommodation

STYLE TRANSFER FOR POLITENESS

- Introduced the task of politeness transfer and discussed the peculiarities involved in the task
- Proposed a tag and generate approach beating the state-of-the-art techniques in automatic and human evaluation

SKILLS

Programming: Python, C++, Bash, R, MATLAB, Java

Frameworks: Pytorch, Tensorflow

ACHIEVEMENTS & ROLES

- Recipient of the **UCLA Computer Science Fellowship 2021 - 2022**, **Amazon Fellowship 2024 - 2025**, **Bloomberg Ph.D. Data Science Fellowship 2025 - 2026**
- Served as **Program Chair** for Social NLP Symposium '23
- Represented CMU at Alexa Socialbot Challenge 2020 and reached the Semifinals
- Worked as a Teaching Assistant for 10 courses

SELECTED PUBLICATIONS

- T Parekh, et. al., "Dynamic Strategy Selection for Efficient Question Answering with Large Language Models", submitted at ARR Oct 2024
- T Parekh, et. al., "SPEED++: A Multilingual Event Extraction Framework for Epidemic Prediction and Preparedness", in Proceedings of EMNLP 2024
- T Parekh, IH Hsu, KH Huang, KW Chang, N Peng, "Contextual Label Projection for Cross-Lingual Structure Extraction", in Proceedings of NAACL 2024 (**Best Paper Nomination**)
- T Parekh, et. al., "Event Detection from Social Media for Epidemic Preparedness", in Proceedings of NAACL 2024
- T Parekh, IH Hsu, KH Huang, KW Chang, N Peng, "GENEVA: Pushing the Limit of Generalizability for Event Argument Extraction with 100+ Event Types", in Proceedings of ACL 2023
- KH Huang, IH Hsu, T Parekh, et. al., "A Reevaluation of Event Extraction: Past, Present, and Future Challenges", in Proceedings of ACL Findings 2024
- A Madaan*, A Setlur*, T Parekh*, et. al., "Politeness Transfer: Tag and Generate Approach", in Proceedings of ACL 2020
- S Garg*, T Parekh* and P Jyothi, "Code-switched Language Models Using Dual RNNs and Same-Source Pre-training", in Proceedings of EMNLP 2018

INDUSTRY EXPERIENCE

Research Scientist Intern

📅 Jun '24 - Sep '24

Meta (GenAI)

- Developed a strategy selection paradigm improving the efficiency and performance of LLMs for QA
- Showed efficacy of our technique on four popular strategies on three QA datasets

Applied Scientist Intern

📅 Jun '22 - Sep '22

Amazon (Alexa AI)

- Explored the alignment of higher order semantics (like negation) across languages in multilingual models
- Showed the effectiveness of our alignment technique on related downstream tasks like sentiment analysis

Applied Scientist

📅 Jul '18 - Jun '19

Amazon (Machine Learning Team)

- Proposed semi-supervised learning and regularization techniques for product attribute extraction from product titles without using partially labeled data.