Seminar Topics: Information Extraction

Faeze Ghorbanpour

faeze@cis.lmu.de
Argument mining: task of automatic extraction and identification of argumentative structures from natural language text

Argumentative structures include: Premise, Conclusions, Scheme and the relationship between the main and subsidiary argument

Applications: qualitative assessment of social media content, legal documents, product reviews, scientific articles, online debates, newspaper articles and dialogical domains

Challenges: wide variety of text genres, lack of large data, lack of consistently annotated argument data, high cost of annotation.
1. Argument Classification and Clustering
   - Reimers et al., 2019, Classification and Clustering of Arguments with Contextualized Word Embeddings, In Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics

2. Multi-Task Learning for Argument Mining
   - Morio et al., 2022, End-to-end Argument Mining with Cross-corpora Multi-task Learning, In Transactions of the Association for Computational Linguistics

3. Transfer Learning for Argument Mining
   - Hua et al., 2022, Efficient Argument Structure Extraction with Transfer Learning and Active Learning, In Findings of the Association for Computational Linguistics
Deception detection or lie detecting is a task of identifying deceptive behaviors.

Motivated by the rapid growth of deception detection applications not only in web content, including product reviews, online dating profiles, and social media posts, but also in our daily conversations, including advertisements, court testimonies, and interactions in lie games.

Different from fact-checking and misinformation detection.

Deception does not only involve verbal communication, but also manifests itself through various non-verbal signs.
Language and Attitude Change: Deception

1. Deception Detection
   - Fornaciari et al., 2021, *BERTective: Language Models and Contextual Information for Deception Detection*, In *Proceedings of the 16th Conference of the European Chapter of the Association for Computational Linguistic*

2. Explainable Deception Detection
   - Ilias et al., 2022, *Explainable Verbal Deception Detection using Transformers*, In *ArXiv*

3. Multimodal Deception Detection
   - Soldner et al., 2019, *Box of Lies: Multimodal Deception Detection in Dialogues*, In *Proceedings of the 2019 Conference of the North American Chapter of the Association for Computational Linguistics*
Persuasion is an activity that involves one party trying to induce another party to believe or disbelieve something or to do (or not do) something.

Predicting the persuasion strategy can help users make better decisions.

Developing intelligent persuasive conversational agents can change people’s opinions and actions for social good.

The lack of training data set specially annotated data set is the major reason to the limited exploration of persuasion strategy detection.
Language and Attitude Change: Persuasion

1. Persuasive Argument Mining

2. Persuasion for Social Good

3. Semi-Supervised Persuasion Strategies Prediction
   - Chen et al., 2021, Weakly-Supervised Hierarchical Models for Predicting Persuasive Strategies in Good-faith Textual Requests, In Proceedings of the AAAI Conference on Artificial Intelligence