ITAI 2373 – Natural Language Processing

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Fall 2024 CN: 16579

Assignment 02: IBM Debater Presentation Report

For the assignment of this week, we are exploring the concept of Project Debater which was developed by IBM. Project Debater represents a significant lap forward in the Artificial Intelligence (AI) world by enabling machines to autonomously engage in debates. Building on past AI milestones like Depp Blue (Chess) and Watson (Jeopardy!), Project Debater successfully participated in live debates against expert human debaters, making a breakthrough in AI's ability to oversee complex, real-time communication.

Methodology and Functionality

Project Debater operates by processing a vast corpus of data (approximately 400 million articles) and using advanced argument mining techniques. Key functions include stance classification, evidence detection, claim detection, and the generation of structured arguments. These capabilities allow the system to form convincing arguments in real-time debates. The system works autonomously, without human intervention, and produces speeches based on extensive data analysis, debate constructions and response selection.

Challenges and Limitations

Despite its advancements, the system faces challenges. Detecting sarcasm, ensuring relevance to the debate topic, and maintaining accuracy in argument constructions are key

difficulties. The system also depends heavily on the quality of its corpus, making it vulnerable to errors or misleading data.

Results and Evaluation

Project Debater's performance was evaluated in comparison with several baseline systems, including SUMMIT, GPT-2 based models, and human debater-generated arguments. The results indicated that while Project Debater could deliver strong opening speeches and arguments, challenges such as topic drifting and improper stance detection affected its performance.

Conclusion

Project Debater highlights AI's potential in complex tasks like debating, but further advancements are necessary for it to manage the subtleties of human discourse fully. The future of AI in debate and similar fields holds great promise, particularly in assisting decision-making and expanding the scope of AI capabilities in human-like communication.

References

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