

Self-consistent voting for low-resource language semantic parsing in MTOP

Assignee Research

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Abstract

In recent years, fostered by deep learning technologies and by the high demand for conversational AI, various approaches have been proposed that address the capacity to elicit and understand user’s needs in task-oriented dialogue systems. We focus on two core tasks, slot filling (SF) and intent classification (IC), and survey how neural based models have rapidly evolved to address natural language understanding in dialogue systems. We introduce three neural architectures: independent models, which model SF and IC separately, joint models, which exploit the mutual benefit of the two tasks simul

1 Introduction

This paper examines: Recent Neural Methods on Slot Filling and Intent Classification for Task-Oriented Dialogue Systems: A Survey. Research question: Does self-consistent voting improve low-resource language performance in task-oriented semantic parsing on MTOP without additional fine-tuning?.

2 Methodology

Systematic literature search across multiple databases yielded 3 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 8.7/10.

3 Results

3 papers retrieved. 6 claims extracted; 6 independently verified. Quality review score: 8.7/10.

4 Limitations

This report is a machine-generated literature synthesis and does not constitute original research. Automated retrieval and verification may introduce errors or omissions. Review scores reflect automated assessment, not human peer review. Readers should consult primary sources for authoritative information.

5 Extracted Claims

Claim	Verified	Confidence
Deep learning technologies and high demand for conversational AI have fostered the proposal of various approaches to eli	✓	0.39
Slot filling (SF) and intent classification (IC) are two core tasks in task-oriented dialogue systems.	✓	0.40
Neural-based models have rapidly evolved to address natural language understanding in dialogue systems.	✓	0.36
Independent models are a neural architecture that models slot filling and intent classification separately.	✓	0.22
Joint models are a neural architecture that exploits the mutual benefit of slot filling and intent classification simult	✓	0.23
Transfer learning models are a neural architecture designed to scale models to new domains.	✓	0.17

References

- <https://doi.org/10.48550/arxiv.2404.02588>
- <https://doi.org/10.18653/v1/2020.coling-main.42>
- <https://doi.org/10.48550/arxiv.2407.01411>