

# 1 References

## 1.1 Semantic Parsing

Original paper [1].

Main idea for fine-tuning a semantic parser [14].

A similar approach [16] code : <https://github.com/lingoWu/SSD>

## 1.2 Data Set

TOUCHDOWN dataset, annotated directions [6] code : <https://github.com/lil-lab/touchdown>

## 1.3 Grounded LTL for Robots

Kress-Gazit Lab at Cornell [10] [3]. They are actually concerned with grounding the LTL formulas

LTL in reinforcement learning [5]

Tellex lab it Brown [12] [2] [8] [7] (additional survey paper [11])

Group at MIT doing similar things [15] [9]

General survey on LTL from natural language [4]

Verifying motion planning for autonomous vehicles in Isabelle, another theorem prover [13]

# References

- [1] Jonathan Berant and Percy Liang. “Semantic Parsing via Paraphrasing”. In: *Proceedings of the 52nd Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*. Baltimore, Maryland: Association for Computational Linguistics, June 2014, pp. 1415–1425.
- [2] Matthew Berg et al. “Grounding Language to Landmarks in Arbitrary Outdoor Environments”. In: *2020 IEEE International Conference on Robotics and Automation (ICRA)*. 2020, pp. 208–215.
- [3] Adrian Boteanu et al. “A model for verifiable grounding and execution of complex natural language instructions”. In: *2016 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2016, pp. 2649–2654.
- [4] Andrea Brunello, Angelo Montanari, and Mark Reynolds. “Synthesis of LTL Formulas from Natural Language Texts: State of the Art and Research Directions”. In: *26th International Symposium on Temporal Representation and Reasoning (TIME 2019)*. Ed. by Johann Gamper, Sophie Pinchinat, and Guido Sciavicco. Vol. 147. Leibniz International Proceedings in Informatics (LIPIcs). Dagstuhl, Germany: Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, 2019, 17:1–17:19.
- [5] Alberto Camacho et al. “LTL and Beyond: Formal Languages for Reward Function Specification in Reinforcement Learning”. In: *Proceedings of the Twenty-Eighth International Joint Conference on Artificial Intelligence, IJCAI-19*. International Joint Conferences on Artificial Intelligence Organization, July 2019, pp. 6065–6073.
- [6] Howard Chen et al. “TOUCHDOWN: Natural Language Navigation and Spatial Reasoning in Visual Street Environments”. In: *2019 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. 2019.

- [7] Nakul Gopalan et al. “Simultaneously Learning Transferable Symbols and Language Groundings from Perceptual Data for Instruction Following”. In: *Robotics: Science and Systems XVI, Virtual Event / Corvallis, Oregon, USA, July 12-16, 2020*. Ed. by Marc Toussaint, Antonio Bicchi, and Tucker Hermans. 2020.
- [8] Eric Hsiung et al. *Generalizing to New Domains by Mapping Natural Language to Lifted LTL*. 2021. arXiv: [2110.05603 \[cs.CL\]](#).
- [9] Yen-Ling Kuo, Boris Katz, and Andrei Barbu. “Deep compositional robotic planners that follow natural language commands”. In: *2020 IEEE International Conference on Robotics and Automation (ICRA)*. IEEE. 2020, pp. 4906–4912.
- [10] Constantine Lignos et al. “Provably Correct Reactive Control from Natural Language”. In: *Auton. Robots* 38.1 (Jan. 2015), pp. 89–105.
- [11] Matthew Marge et al. “Spoken language interaction with robots: Recommendations for future research”. In: *Computer Speech and Language* 71 (2022), p. 101255.
- [12] Roma Patel, Stefanie Tellex, and Ellie Pavlick. “Learning to Ground Language to Temporal Logical Form”. In: (2019).
- [13] Albert Rizaldi et al. “A Formally Verified Motion Planner for Autonomous Vehicles”. In: *Automated Technology for Verification and Analysis*. Ed. by Shuvendu K. Lahiri and Chao Wang. Cham: Springer International Publishing, 2018, pp. 75–90.
- [14] Richard Shin et al. “Constrained Language Models Yield Few-Shot Semantic Parsers”. In: *CoRR* abs/2104.08768 (2021). arXiv: [2104.08768](#).
- [15] Christopher Wang et al. “Learning a natural-language to LTL executable semantic parser for grounded robotics”. In: *CoRR* abs/2008.03277 (2020). arXiv: [2008.03277](#).
- [16] Shan Wu et al. “From Paraphrasing to Semantic Parsing: Unsupervised Semantic Parsing via Synchronous Semantic Decoding”. In: *Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing (Volume 1: Long Papers)*. Online: Association for Computational Linguistics, Aug. 2021, pp. 5110–5121.