

AI & Robotics: Research

Exercise 3

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1 Read the LeTS-Drive paper

Find the paper here:

– <https://arxiv.org/abs/1905.12197>

The paper from RSS 2019 combines many interesting technologies for planning under uncertainty and learning.

For each of the following items, be able to give a brief report (ca. 4mins each):

- a) List and explain what the authors claim the contributions are, i.e., what precisely is beyond previous work in this paper
- b) The authors mention “Background and Related Work” in Section II – what is the difference between background and related work?
- c) Summarize the different areas of related work. Lookup at least one paper from each of the three sub-sections of section II. “Lookup” means: Find the paper and read the abstract, perhaps glimpse at the results.
- d) Be able to explain Figure 2 of the paper
- e) Be able to explain roughly the notions of ‘belief’, ‘belief tree’, and ‘POMDP’
- f) Be able to explain what is learned in Section III.B.
- g) Be able to explain Figure 3 of the paper
- h) Be able to explain (relating to Section III.C.) what it means to use a learned model as heuristic for search – and how that relates to AlphaGO
- i) Roughly
- j) Be able to explain the simulation setups, the scenarios used for evaluation
- k) Be able to talk through the accompanying video at <https://youtu.be/oghGK3QJFVo>
- l) Be able to explain briefly the baseline methods
- m) Be able to explain Tables I and II