

CAP5625 - Introduction to Robotics
Project 1: Knowledge Retrieval

Part 3: Write a project paper

Tasks:

Write a project paper on your work in the previous two phases of this project using IEEE conference template. The templates can be found at:

<https://www.ieee.org/conferences/publishing/templates.html>

You should have the following sections in your paper

1. Introduction.
 - Describe the motivation of developing search algorithms for FOON.
 - Describe the context with the previous works.
2. FOON creation.
 - Define the terminologies such as functional unit, nodes, edges, task tree etc. For definitions, you can check the reference links added to this doc.
 - Describe the task tree creation process, how you checked the task trees provided to you.
 - You can use the visualization tool to create figures of functional unit/subgraph/task tree.
 - You can also add some statistics like number of object nodes, motion nodes, functional units.
3. Methodology.
 - Describe the search algorithms you have implemented.
 - Describe the heuristic functions.
4. Experiment/Discussion.
 - Compare the performance of different search algorithms in terms of number of functional units in the task tree, computer and memory complexity to extract the task tree. You can create a table to show the comparison. I provided 5 goal nodes. You can try more goal nodes in your experiment.
5. References.
 - You should list papers cited in the paper

For your reference, here are some of the previous works

- <https://ieeexplore.ieee.org/abstract/document/9830875>
- <https://arxiv.org/abs/2309.09181>
- <https://ieeexplore.ieee.org/document/9561680>
- <https://ieeexplore.ieee.org/document/8460200>
- <https://ieeexplore.ieee.org/document/7759413>
- <https://arxiv.org/abs/2106.00728>

Submission:

Submit a pdf file on Canvas.

Bonus Points:

If you submit your paper to arXiv and it gets accepted, email me (mdsadman@usf.edu) the link of your paper to get **5 bonus points (5% of the project grade)**.

Here is a tutorial on how to submit a paper to arXiv:

<https://www.youtube.com/watch?v=0i4C8yxbs48>