

Thesis Changes Log

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PhD Program: Engineering Systems

Title of Thesis: Neural Field-Based Optimal Motion Planning Method for Differential Drive Robots with Nonholonomic Constraints, Robots in Dynamic Environment and Swarm of Robots

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The thesis document includes the following changes in answer to the external review process.

Chapter 1

- A section discussing contributions is added (Section 1.3).
- References in Thesis Structure are fixed (Section 1.4).

Chapter 2

- Grammar mistakes are fixed in Section 2.6.
- Background on Multi-Agent Path Finding is added to Section 2.6.
- Recent works in application of neural fields in motion planning are added to Section 2.8.

Chapter 3

- Figure 3-1 is moved to Section 3.1.
- Main success factor is changed from profit of robotics solution to effectiveness of robotics solution.
- Hypothesis is revised in Section 3.3.

Chapter 4

- Large comparison table is split into two separate tables: Table 1 showing Berlin and Parking scenarios results, and Table 2 showing Corridor and Random Forest scenarios results.
- Tables moved to Section 4.6.2.
- Description of distance loss is clarified in Section 4.1.
- Description of collision loss function is improved in Section 4.4.
- Section 4.7 on Limitations and Future Work is added.

Chapter 5

- Description of Figure 5-1 is added in Section 5.1.
- Spelling from "sequential" to "sequential" is corrected in Section 5.3.
- Equations 5.3 and 5.4 are fixed.
- Section 5.7 on Limitation and Future Work is added

Chapter 6

- Section 6.5 on Limitations and Future Work is added.

Abstract

- The first paragraph is rewrote.

Conclusion

- The second paragraph is added.