

University of Salerno – Italy

PhD Program in Information Engineering



PhD Thesis Evaluation Form

Name of the PhD Candidate: Francesco Rosa

Title of the PhD Thesis: ideo-Conditioned Multi-Task Imitation Learning for Robotic Systems: Enhancing Robustness Through Object Centric Reasoning

Reviewer's name: Benoit Gaüzère

Reviewer's affiliation: INSA Rouen Normandie / LITIS

Reviewer's e-mail address: benoit.gauzere@insa-rouen.fr

Requirements for the Degree of Doctor, awarded by University of Salerno:

1. SCIENTIFIC QUALITY OF THE PHD THESIS

1a. Originality of the Research

Rating : good

The research presented in this PhD explores a highly relevant theme in robotics, specifically focusing on visual-conditioned multi-task imitation learning. The originality lies in its modular architecture that differentiates the detection and the manipulation of objects, which is quite different and original with respect to end-to-end approaches. The proposed methodology has both academic and applied relevance, especially in developing adaptive robotic systems for dynamic environments. I think that this kind of work may improve the deployment of autonomous robots for complex tasks.

1b. Scientific Quality of the (Research) Chapters

Rating : good

The objectives are clearly defined and supported by a scientific framework. Literature is well described and complete, and mathematical foundations of the problem are complete and well presented. The methodological approach, combining a conditioned object detector with a modular control policy, is well-justified and innovative. Each part is associated to a particular chapter, so as it is analysed independently.

The experimental setup is comprehensive, notably covering both simulated and real-world environments, with quantitative results showcasing substantial improvements over baseline methods.

The last chapter, quite explorative, is nicely presented and discussed.

2. CANDIDATE'S REFLECTION ON THE RESEARCH AS PROVEN IN THE INTRODUCTION, GENERAL DISCUSSION, AND CONCLUSIONS

Rating : good

The introduction provides a strong contextual foundation, while the discussion and conclusions effectively summarize the research contributions. However, the conclusions could include more detailed perspectives on future work and broader implications of the findings.

3. QUALITY OF WRITTEN PRESENTATION

Rating : good

The thesis is well-structured, with a clear abstract and balanced sections. The references are adequate and relevant. However, minor improvements could be made to enhance readability and reduce technical jargon in some sections, particularly the ones in chapter one, making it more accessible to a broader audience.

4. OVERALL ASSESSMENT

Rating : good

The thesis demonstrates a high level of scientific competence and originality. The candidate has addressed complex challenges in robotics and proposed solutions with clear practical and theoretical impacts. The work reflects a deep understanding of the field and makes a substantial contribution to robotic learning and adaptability.

Date :
29/12/2024

Signature :

A handwritten signature in blue ink, appearing to be 'Eg', followed by a long horizontal line.

Please email the completed form to the Doctorate's secretariat (dringinf@unisa.it) and to the Director (pchiacchio@unisa.it).