Feature Set Refinement for Robotic Tasks by Human Demonstration

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Abstract— **Feature selection is an essential part of representing the task in robot learning. With a relevant set of features, the robot can not only have a better performance but also decrease the learning cost. In this work, the feature selection method is proposed to help the robot determine which subset of the features is relevent to represent a task. We implement an experiment system for human-robot interaction in simple task as proofing our concept as well as showing the preliminary results**

Keywords: Human-Robot Interaction, Feature Selection

I. INTRODUCTION

Transferring knowledge is defined as allowing the instructor to share or disseminate the knowledge or experiment to the learner. In robotic field, Human-Robot knowledge transfer which allows non-robotic-experts have opportunities to interact with robots is one of the areas that attracts attention of mamy researchers. There are two parts in Human-Robot knowledge tranfer. The first part is human-to-robot part in which robot learn the knowledge from human through human instruction and the other part is robot-to-human part where robot teach the task to human [1].

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TABLE I
AN EXAMPLE OF A TABLE

One	Two
Three	Four

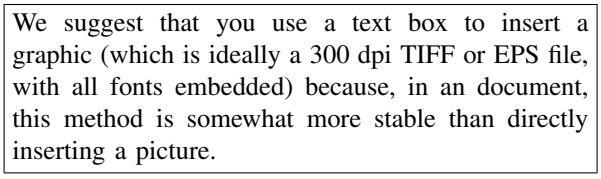

Fig. 1. Inductance of oscillation winding on amorphous magnetic core versus DC bias magnetic field

Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity Magnetization, or Magnetization, M, not just M. If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write Magnetization (A/m) or Magnetization A[m(1)], not just A/m. Do not label axes with a ratio of quantities and units. For example, write Temperature (K), not Temperature/K.

V. CONCLUSIONS

A conclusion section is not required. Although a conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions.

APPENDIX

Appendixes should appear before the acknowledgment.

ACKNOWLEDGMENT

The preferred spelling of the word acknowledgment in America is without an e after the g. Avoid the stilted expression, One of us (R. B. G.) thanks . . . Instead, try R. B. G. thanks. Put sponsor acknowledgments in the unnumbered footnote on the first page.

References are important to the reader; therefore, each citation must be complete and correct. If at all possible, references should be commonly available publications.

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