One-Class Approaches for Object Extraction in Images

by

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ABSTRACT

This is my abstract

DEDICATION

ACKNOWLEDGEMENTS

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Chapter 1

INTRODUCTION

1.1 Motivation

1.2 Problem Statement

We address the problem of classification/ object extraction when only positive samples are labeled. Let us start by establishing some notation: Let ....

Then the problem can be stated as follows: we are **given** X and our **aim** is Y

1.3 Objective

The aim of this work is to evaluate methods that may solve the one-class extraction problem in the context of aerial imagery, particularly when applied to feature extraction problems such as the task of locating all image patches that contain vehicles in a large image.

1.4 Contributions

We make the following contributions:

- (A contribution involving the application of this approach to cars?)
- Contribution 2
- Contribution 3 (always 3)

Chapter 2

RELATED WORK

The topic of one-class machine learning has been covered by the survey paper Khan and Madden (2010, 2014).

Chapter 3

THEORY

Chapter 4

IMPLEMENTATION

Chapter 5

EVALUATION AND RESULTS

5.1 Training Set Size vs Recall

Table 5.1: Recall on 50% of the labeled data when trained using increasing amounts of data.

	10%	20%	30%	40%	50%
1C-SVM, Chen *et al.* (2001)					
Method2					
Method3					

Chapter 6

CONCLUSION AND FUTURE WORK

REFERENCES

Chen, Y., X. S. Zhou and T. S. Huang, "One-class svm for learning in image retrieval", in "Image Processing, 2001. Proceedings. 2001 International Conference on", vol. 1, pp. 34–37 (IEEE, 2001).

Khan, S. S. and M. G. Madden, "A Survey of Recent Trends in One Class Classification", in "Proceedings of the 20th Irish Conference on Artificial Intelligence and Cognitive Science", AICS'09, pp. 188–197 (Springer-Verlag, 2010).

Khan, S. S. and M. G. Madden, "One-class classification: taxonomy of study and review of techniques", The Knowledge Engineering Review **29**, 03, 345–374 (2014).

APPENDIX A

RAW DATA

BIOGRAPHICAL SKETCH