Optimum reject options for multiclass classification

Johannes Kummert

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Bachelor Thesis

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Johannes Kummert

1. Reviewer Prof. Dr. Barbara Hammer
Theoretical Computer Science
Bielefeld University

2. Reviewer Benjamin PaaÃ§en
Theoretical Computer Science
Bielefeld University

Supervisors Prof. Dr. Barbara Hammer and Benjamin PaaÃ§en

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Johannes Kummert

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Abstract

Contents

1 Introduction **1**

2 Reject Options **3**

2.1 Two Classes 3

2.1.1 Strategy 3

2.1.2 Optimal Θ 3

2.2 Multiclass Classification 3

2.2.1 Global Reject 3

2.2.2 Local Reject 3

2.2.3 Optimal local Reject 3

2.2.4 Computation by Dynamic Programming 3

2.2.5 Greedy Computation 3

2.2.6 Evaluation 3

3 Application for SVM **5**

4 Conclusions **7**

1 Introduction

2 Reject Options

2.1 Two Classes

To make our way towards optimal rejects for multiclass classification, we start of small by looking at a general two class classifier f that divides the space via a decision plane (hyperplane?).

$$f : \mathbb{R}^n \to \{1, 2\}$$

Let r_1 and r_2 be measures of confidence that a point is part of the respective class. If $r_i(\bar{x})$ is large it means that $\bar{x}$ is likely in class i.

2.1.1 Strategy

2.1.2 Optimal Θ

2.2 Multiclass Classification

2.2.1 Global Reject

2.2.2 Local Reject

2.2.3 Optimal local Reject

2.2.4 Computation by Dynamic Programming

2.2.5 Greedy Computation

2.2.6 Evaluation

3 Application for SVM

4 Conclusions

List of Figures

List of Tables