
Machine Learning Formulas*

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Abstract

[TODO]

1 Introduction

[TODO]

2 Supervised Learning

[TODO]

Error Measures [TODO]

- **Error Rate:** [TODO]
- **Resubstitution error:** [TODO]
- **Generalization Error:** [TODO]

Experimental Strategies [TODO]

- **Holdout:** [TODO]
- **Repeated Holdout:** [TODO]
- **Cross Validation:** [TODO]
- **Repeated Cross Validation:** [TODO]

2.1 Decision Trees

[TODO]

2.1.1 Information Theory

[TODO]

2.1.2 ID3

[TODO]

2.1.3 C4.5

[TODO]

*This document is being maintained in <https://github.com/garciparedes/machine-learning-formulas>

2.2 Rule Based Systems

[TODO]

2.2.1 1R

[TODO]

2.2.2 PRISM

[TODO]

2.2.3 IREP

[TODO]

2.2.4 RIPPER

[TODO]

2.2.5 PART

[TODO]

2.3 Instance Based Learning

[TODO]

2.3.1 K - Nearest Neighbors

[TODO]

2.3.2 IB3

[TODO]

2.4 Bayes Learning

[TODO]

2.4.1 Naive Bayes

[TODO]

2.4.2 K2

[TODO]

2.4.3 TAN

[TODO]

2.5 Linear Classifiers

[TODO]

2.5.1 Linear Regression

[TODO]

2.5.2 Logistic Regression

[TODO]

2.5.3 Support Vector Machines

[TODO]

2.6 Neural Networks

[TODO]

2.6.1 Single Layer Neural Networks

Simple Perceptron [TODO]

ADALINE [TODO]

2.6.2 Multi Layer Perceptron

[TODO]

2.6.3 Radial Basis Functions

[TODO]

2.6.4 Convolutional Neural Networks

[TODO]

2.6.5 Recurrent Neural Networks

[TODO]

3 Unsupervised Learning

[TODO]

References

[CCAG17] Teodoro Calonge Cano and Carlos Javier Alonso González. Técnicas de Aprendizaje Automático, 2016/17.