

# Bankruptcy prediction using stacking methods

ShuoshuoFan

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## Abstract

Bankruptcy prediction is remarkable for its importance in modern economics.[The aim of predicting financial distress is to develop a predictive model that combines various econometric measures and allows to foresee a financial condition of a firm.][copy]. Both single estimator and ensemble methods based on machine learning were used to solve the financial decision-making problems.This paper applies stacking methods to the bankruptcy prediction problem in an attempt to suggest a new model with better explanatory power and stability.To serve this purpose,we do something.get better result.

## 1 Introduction

An importance issue in financial decision-making is to predict ,timely and correctly business failure(e.g. credit scoring and bankruptcy prediction).Not only investors but also policy makers can benefits from developing a reliable credit scoring system .

Bankruptcy prediction is the task of learning a target function  $f$  that maps each econometric indicators set  $x$  to one of the opposite labels  $y$  ,namely , binary classification problem .Given something ,

challenging to exist method .A fundamental and challenging task is what?The machine learning technique is one importance.Feature and model selection.

There are two fundamental problems that are associated with the bankruptcy prediction from a perspective of machine learning.[write something]

Previous works. Sample methods Model selection.among the machine learning methods used in practice ,ensemble method is one technique that shines in this domain.Ensemble techniques such as bagging or boosting,which are based on combinations of classifiers,make it possible to design models that are often more accurate than those that are made up of a

Contribution.In this paper we do something.Best to our knowledge,such an approach was not applied to solve the problem of .However,this method is successfully applied to many classification problems and widely used in winning Kaggle competitions.

Organization of the paper.The remainder of the paper is organized as follows.

## 2 Methodology

### 2.1 How to add Comments

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Use the table and tabular commands for basic tables — see Table 1, for example.



Figure 1: This frog was uploaded via the project menu.

Item	Quantity
Widgets	42
Gadgets	13

Table 1: An example table.

## 2.4 How to write Mathematics

L<sup>A</sup>T<sub>E</sub>X is great at typesetting mathematics. Let  $X_1, X_2, \dots, X_n$  be a sequence of independent and identically distributed random variables with  $E[X_i] = \mu$  and  $\text{Var}[X_i] = \sigma^2 < \infty$ , and let

$$S_n = \frac{X_1 + X_2 + \dots + X_n}{n} = \frac{1}{n} \sum_i^n X_i$$

denote their mean. Then as  $n$  approaches infinity, the random variables  $\sqrt{n}(S_n - \mu)$  converge in distribution to a normal  $\mathcal{N}(0, \sigma^2)$ .

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# 3 Experiments

Some books books ,for examples ,[\[1\]](#) and [\[2\]](#) .

### **3.1 Dataset**

### **3.2 Experiment setup**

### **3.3 Results**

## **4 Conclusion**

## **References**

- [1] T. Chen and T. He, “Higgs Boson Discovery with Boosted Trees,” pp. 69–80, 2015.
- [2] S.-H. Min, J. Lee, and I. Han, “Hybrid genetic algorithms and support vector machines for bankruptcy prediction,” *Expert Systems with Applications*, vol. 31, no. 3, pp. 652–660, 2006.