Music Genre Classification Using Multiple Classifiers Machine Learning Project

Lisa Korntheuer, Jan Birkert, Adrian Desiderato, Jan Wangerin, Spyridon Spyropoulos

Technische Hochschule Ulm

January 11, 2025



Music Genre Classification Using Multiple Classifiers

Lisa Korntheuer, Jan Birkert, Adrian Desiderato, Jan Wangerin, Spyridon Spyropoulos

ntroduction

Data Understanding

Data Preparation

Modeling

ndom Forest

-Nearest-Neighbors

Artificial Neural Network

Evaluation

Experimentation

nclusion

Data Preparatio

andom Forest

ecision Trees

-Nearest-Neighbors

Artificial Neural Network

valuation

Comparison

nelusion

1 Introduction

2 Data Understanding

3 Data Preparation

4 Modeling

Random Forest Decision Trees

K-Nearest-Neighbors

Artificial Neural Network

6 Evaluation

Comparison

 ${\sf Experimentation}$

Introduction

Data Understanding

ata Preparation

Modeling

andom Forest

ision Trees

Nearest-Neighbors

Artificial Neural Network

valuation

omparison

perimentation

Spyropoulos

Introduction

2 Data Understanding

3 Data Preparation

4 Modeling

Random Forest
Decision Trees
K-Nearest-Neighbors

5 Evaluation
Comparise

Data Understanding

Artificial Neural Network

◆□▶◆骨▶◆量▶◆量▶ ■ 釣♀♡

- Introduction
- 2 Data Understanding
- 3 Data Preparation
- Modeling
 Random Forest
 Decision Trees
 K-Nearest-Neighbors
- 5 Evaluation
 Comparison
 Experimentation
- 6 Conclusion

Lisa Korntheuer, Jan Birkert, Adrian Desiderato, Jan Wangerin, Spyridon Spyropoulos

troduction

Data Understandin

Data Preparation

Modeling

landom Forest

Decision Trees

K-Nearest-Neighbors

Artificial Neural Network

valuation comparison

perimentation

clusion

Lisa Korntheuer, Jan Birkert, Adrian Desiderato, Jan Wangerin, Spyridon Spyropoulos

Data Preparation

Artificial Neural Network

Data Preparatio

Modeling

Random Forest

K-Nearest-Neighbors

Artificial Neural Network

Evaluation

Comparison

onclusion

Introduction

2 Data Understanding

3 Data Preparation

4 Modeling

Random Forest Decision Trees K-Nearest-Neighbors

Artificial Neural Network

EvaluationComparisonExperimentation

Lisa Korntheuer, Jan Birkert, Adrian Desiderato, Jan Wangerin, Spyridon Spyropoulos

ntroduction

Data Understanding

Data Preparation

lodeling

Random Forest

andom Forest

Nearest-Neighbors

K-Nearest-Neighbors

Artificial Neural Network

valuation

omparison

onclusion

Modeling - Decision Trees

• This is an awesome slide with very important information.

Music Genre Classification Using Multiple Classifiers

Lisa Korntheuer, Jan Birkert, Adrian Desiderato, Jan Wangerin, Spyridon Spyropoulos

ntroduction

Data Understanding

Data Preparation

Aodeling

landom Forest

Decision Trees

Nearest-Neighbors

K-Nearest-Neighbors

Artificial Neural Network

tificial Neural N

valuation

omparison xperimentation

nclusion

Modeling - K-Nearest-Neighbors

• This is an awesome slide with very important information.

Music Genre Classification Using Multiple Classifiers

Lisa Korntheuer, Jan Birkert, Adrian Desiderato, Jan Wangerin, Spyridon Spyropoulos

K-Nearest-Neighbors

Artificial Neural Network

Modeling - Artificial Neural Network

• This is an awesome slide with very important information.

Music Genre Classification Using Multiple Classifiers

Lisa Korntheuer, Jan Birkert, Adrian Desiderato, Jan Wangerin, Spyridon Spyropoulos

troduction

Data Understanding

ata Preparation

Nodeling

andom Forest

ecision Trees

Nearest-Neighbors

Artificial Neural Network

Evaluation

omparison

nclusion

◆□ > ◆□ > ◆豆 > ◆豆 > ・豆 * りへで

Data Preparatio

Random Forest

Decision Trees

K-Nearest-Neighbors Artificial Neural Network

Evaluation

Comparison Experimentation

nclusion

Introduction

2 Data Understanding

3 Data Preparation

4 Modeling

Random Forest Decision Trees K-Nearest-Neighbors

5 Evaluation
Comparison
Experimentation

Lisa Korntheuer, Jan Birkert, Adrian Desiderato, Jan Wangerin, Spyridon Spyropoulos

ntroduction

Data Understanding

Data Preparation

Nodeling

ndom Forest

cision Trees

learest-Neighbors

ificial Moural Metuo

Artificial Neural Network

valuation

Comparison

omparison xperimentation

.

nclusion

Experimentation

• This is an awesome slide with very important information.

Music Genre Classification Using Multiple Classifiers

Lisa Korntheuer, Jan Birkert, Adrian Desiderato, Jan Wangerin, Spyridon Spyropoulos

Artificial Neural Network

Experimentation



Introduction

K-Nearest-Neighbors

Lisa Korntheuer, Jan Birkert, Adrian Desiderato, Jan Wangerin, Spyridon Spyropoulos

ntroduction

Data Understanding

Data Preparation

Modeling

indom Forest

ndom Forest

Nearest-Neighbors

Artificial Neural Network

. . . .

/aluation

omparison

Conclusion

ntroduction

Data Understanding

Data Preparation

Modeling

Random Forest Decision Trees

K-Nearest-Neighbor

Artificial Neural Network

Evaluation

omparison xperimentatio