VIETNAM NATIONAL UNIVERSITY HO CHI MINH CITY
HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY
FACULTY OF COMPUTER SCIENCE AND ENGINEERING

Probability and Statistics

Project Report

Predictive Modeling of Internet Advertisement Characteristics

Instructor(s): Nguyen Tien Dung
Student(s): Pham Viet Hao   2352297
             Nguyen Minh Hoang   2352352
             Lu Thuan Hung   2352429
             Thuong Dinh Hung   2352444
             Huynh Nhat Huy   2352381

HO CHI MINH CITY, APRIL 2025

Member list & Workload

No.	Full name	Student ID	Contribution
1	Pham Viet Hao	2352297	20%
2	Nguyen Minh Hoang	2352352	20%
3	Lu Thuan Hung	2352429	20%
4	Thuong Dinh Hung	2352444	20%
5	Huynh Nhat Huy	2352381	20%

Contents

1 Project Overview

1.1 Project Introduction

In today's digital landscape, understanding and be able to classify advertisements is crutial for various applications such as ad bloacking software, market analytics, etc. Therefore, in this project, we aim to build a predictive model that can classify advertisements based attributes such as height, width, and aspect ratio.

Source: www.kaggle.com/datasets/uciml/internet-advertisements-data-set/data

1.2 Data Context

The data used in this project is given by UCI Machine Learning Respository, contains 1558 collumns and 3278 rows with each row represents one image tagged as ad or nonad in the last collumn. The actual numberical attributes of the images are represented from collumn 0 to 1557 with 3 continuous attributes.

1.3 Monitoring Values

1.4 Variables

Variable	Type	Description
0	Numeric	Height of image
1	Numeric	Width of image
2	Numeric	Aspect ratio of image
3-1557	Numeric	Image attributes
1558	Character	Categoriize between ad and nonad

2 Background Knownledge

just cha

3 Data Preprocessing

3.1 Import Libraries

3.2 Import Data

```
1 data <- read.csv("add.csv")
```

3.3 Reading Data

4 Descriptive Statistics

5 Inferential Statistics

6 Discussion and Extensions

7 Data Sources and Code Source

```
1 cout << "hello"
2 printf("")
3     print("nested")
```

```
C:\Users\Group6>R


R version 4.5.0 (2025-04-11 ucrt) -- "How About a Twenty-Six"
Copyright (C) 2025 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64


R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.


  Natural language support but running in an English locale


R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.


Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.
```

>

```r
data <- read.csv("add.csv")
print(dim(data))

# cars <- c(1, 3, 6, 4, 9)
# trucks <- c(2, 5, 4, 5, 12)

# plot(cars, type="o", col="blue", ylim=c(0,12))

# lines(trucks, type="o", pch=22, lty=2, col="red")

# title(main="Autos", col.main="red", font.main=4)
```

```r
data <- read.csv("add.csv")
print(dim(data))
```

References

[1] M. Lichman. UCI machine learning repository, 2013.