
UNIVERSIDADE CATÓLICA PORTUGUESA
CENTRO REGIONAL DE BRAGA

3º year Bachelor's Degree in Data Science – Sentiment Analysis Technology

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# Amazon Products Review

BRAGA

# Introduction

As online product purchases increase, consumer reviews on e-commerce platforms such as Amazon, Ebay, AliExpress, have become a key factor in purchasing decisions. These reviews provide direct feedback on the quality and functionality of a product, influence other consumers and help companies identify ways to improve their products. By analysing the sentiment of reviews on Amazon.com, we can not only identify the main customer opinions (positive, negative or neutral), but also understand the main factors that trigger consumers' emotional reactions.

The potential impact of this project is huge, providing valuable information to optimize customer experience and improve product development. Companies can use this feedback to adjust their marketing strategies and even improve certain aspects of their products.

# Project Objectives

The main objective of the project is to perform a sentiment analysis of Amazon product reviews to identify the prevailing opinions (positive, negative or neutral), to obtain detailed information about the aspects most frequently mentioned by consumers (e.g. quality, price, functionality) and to present these results in the form of a dashboard that allows a simple and visual presentation of the data.

In this approach, product reviews are collected using web scraping or API techniques (where available) and the data is then processed using Natural Language Processing (NLP) techniques for sentiment classification. An interactive dashboard allows the visualization of metrics and graphs to facilitate the interpretation of the results.

# Data Sources

Amazon offers a huge number of reviews on various products, where consumers share their opinions and experiences.

These reviews are a rich and reliable source of data from real consumers. Available at scale, these reviews provide a diversity of opinions that can be analyzed to gain detailed insights into consumer behavior across a wide range of products.

The data will be obtained via web scraping or API. If Amazon provides an API that allows direct access to reviews, this will be the preferred approach due to the ease of access and organization of the data. Otherwise, we will use web scraping techniques, always respecting Amazon's terms of service and good data collection practices.