

# Title of This Paper\*

What is my Subtitle?†

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## ABSTRACT

In this report, I will talk about my Kaggle Project. In previous studies, I learned the use of LaTeX and Git and mastered their basic operations. I also learned about Python and data visualization. Now I'm going to use the Kaggle project to demonstrate what I've learned.

## KEYWORDS

Python, Machine Learning, Data Processing, Git, LaTeX

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## 1 INTRODUCTION

### 1.1 Description

In a world... where movies made an estimated \$41.7 billion in 2018, the film industry is more popular than ever. But what movies make the most money at the box office? How much does a director matter? Or the budget? For some movies, it's "You had me at 'Hello.'" For others, the trailer falls short of expectations and you think "What we have here is a failure to communicate."

### 1.2 Target

In this competition, you're presented with metadata on over 7,000 past films from The Movie Database to try and predict their overall worldwide box office revenue. Data points provided include cast, crew, plot keywords, budget, posters, release dates, languages, production companies, and countries. You can collect other publicly available data to use in your model predictions, but in the spirit of this competition, use only data that would have been available before a movie's release.

\*Produces the permission block, and copyright information

†The full version of the author's guide is available as `acmart.pdf` document

‡Dr. Trovato insisted his name be first.

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## 2 DATA PROCESSING

### 2.1 Data Description

In the dataset, it includes 7,398 movies and various metadata from the Movie Database (TMDB). Movies are labeled with id. Data points include cast, crew, plot keywords, budget, posters, release dates, languages, production companies, and countries. Predict the worldwide revenue for 4398 movies.

### 2.2 Basic Information of Data

- **train.csv** – it contains 3000 rows and 23 columns.
- **test.csv** – it contains 4398 rows and 22 columns. Compared with the train data, there are fewer "revenue" column.
- **sample\_submission.csv** – it clarifies the data submission format. It just contains 2 columns that is "id" and "revenue".

### 2.3 Data Fields

The following is basic information of data.

Name	Description	Attribute
train.csv	Training set (Movies from 1970-2018)	id, belongs_to_collection, budget, genre, imdb_id, original_language, original_title, popularity, poster_path, production_countries, release_date, runtime, spoken_languages, status, tagline, title, vote_average, cast, crew, revenue
test.csv	Test set (Predict revenue)	id, belongs_to_collection, budget, genre, imdb_id, original_language, original_title, popularity, poster_path, production_countries, release_date, runtime, spoken_languages, status, tagline, title, K
sample_submission.csv	Format of submission	id, revenue

### 2.4 Numerical features

- There are 4 numerical features in total.
- The minimum of budget is 0.
- There are some missing values in the runtime, and the minimum of runtime is 0.

"In this paper, we show that ...". This is the key paragraph in the intro - you summarize, in one paragraph, what are the main contributions of your paper given the context you have established in paragraphs 1 and 2. What is the general approach taken? Why are the specific results significant? This paragraph must be really good.

	id	budget	popularity	runtime	revenue
count	3000.000000	3.000000e+03	3000.000000	2998.000000	3.000000e+03
mean	1500.500000	2.253133e+07	8.463274	107.856571	6.672585e+07
std	866.169729	3.702609e+07	12.104000	22.086434	1.375323e+08
min	1.000000	0.000000e+00	0.000001	0.000000	1.000000e+00
25%	750.750000	0.000000e+00	4.018053	94.000000	2.379808e+06
50%	1500.500000	8.000000e+06	7.374861	104.000000	1.680707e+07
75%	2250.250000	2.900000e+07	10.890983	118.000000	6.891920e+07
max	3000.000000	3.800000e+08	294.337037	338.000000	1.519558e+09

Figure 1: Missing values analysis

You should think about how to structure these one or two paragraph summaries of what your paper is all about. If there are two or three main results, then you might consider itemizing them with bullets or in test.

- e.g., First ...
- e.g., Second ...
- e.g., Third ...

If the results fall broadly into two categories, you can bring out that distinction here. For example, "Our results are both theoretical and applied in nature. (two sentences follow, one each on theory and application)"

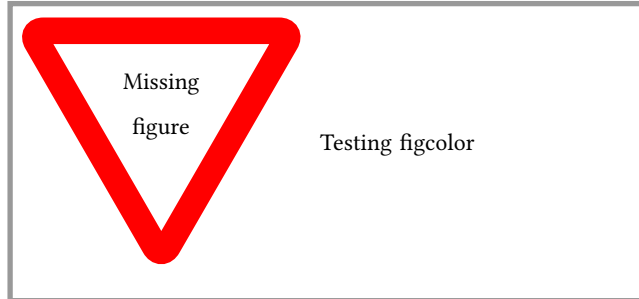
Keep this at a high level, you can refer to a future section where specific details and differences will be given. But it is important for the reader to know at a high level, what is new about this work compared to other work in the area.

"The remainder of this paper is structured as follows..." Give the reader a roadmap for the rest of the paper. Avoid redundant phrasing, "In Section 2, In section 3, ... In Section 4, ... " etc.

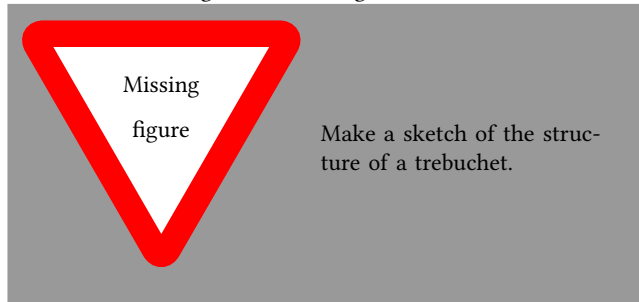
Test citation

This is for ??, and this is for ??.

Number: 123. 10, 30, 50 and 70, 10 to 30, 10 m, 30 m and 45 m, and 10 %



We have 10 Hz, kg m s<sup>-1</sup>, the range: 10 Hz to 100 Hz. 1/2.



For ??, as shown below:

$$a = b \times \sqrt{ab} \quad (1)$$

The quick brown fox jumps over the lazy dog. Jackdaws love my big Sphinx of Quartz. Pack my box with five dozen liquor jugs. The five boxing wizards jump quickly. Sympathizing would fix Quaker objectives.

$$\bar{x} = \frac{1}{n} \sum_{i=1}^{i=n} x_i = \frac{x_1 + x_2 + \dots + x_n}{n}$$

Many-wived Jack laughs at probes of sex quiz. Turgid saxophones blew over Mick's jazzy quaff. Playing jazz vibe chords quickly excites my wife. A large fawn jumped quickly over white zinc boxes. Exquisite farm wench gives body jolt to prize stinker.

$$\int_0^{\infty} e^{-\alpha x^2} dx = \frac{1}{2} \sqrt{\int_{-\infty}^{\infty} e^{-\alpha x^2} dx} \int_{-\infty}^{\infty} e^{-\alpha y^2} dy = \frac{1}{2} \sqrt{\frac{\pi}{\alpha}}$$

Jack amazed a few girls by dropping the antique onyx vase! The quick brown fox jumps over the lazy dog. Jackdaws love my big Sphinx of Quartz. Pack my box with five dozen liquor jugs. The five boxing wizards jump quickly.

$$\sum_{k=0}^{\infty} a_0 q^k = \lim_{n \rightarrow \infty} \sum_{k=0}^n a_0 q^k = \lim_{n \rightarrow \infty} a_0 \frac{1 - q^{n+1}}{1 - q} = \frac{a_0}{1 - q}$$

Sympathizing would fix Quaker objectives. Many-wived Jack laughs at probes of sex quiz. Turgid saxophones blew over Mick's jazzy quaff. Playing jazz vibe chords quickly excites my wife. A large fawn jumped quickly over white zinc boxes.

$$x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-p \pm \sqrt{p^2 - 4q}}{2}$$

Exquisite farm wench gives body jolt to prize stinker. Jack amazed a few girls by dropping the antique onyx vase! The quick brown fox jumps over the lazy dog. Jackdaws love my big Sphinx of Quartz. Pack my box with five dozen liquor jugs.

$$\frac{\partial^2 \Phi}{\partial x^2} + \frac{\partial^2 \Phi}{\partial y^2} + \frac{\partial^2 \Phi}{\partial z^2} = \frac{1}{c^2} \frac{\partial^2 \Phi}{\partial t^2}$$

The five boxing wizards jump quickly. Sympathizing would fix Quaker objectives. Many-wived Jack laughs at probes of sex quiz. Turgid saxophones blew over Mick's jazzy quaff. Playing jazz vibe chords quickly excites my wife.

### 3 PRELIMINARIES

A large fawn jumped quickly over white zinc boxes. Exquisite farm wench gives body jolt to prize stinker. Jack amazed a few girls by dropping the antique onyx vase! The quick brown fox jumps over the lazy dog. Jackdaws love my big Sphinx of Quartz.

### 4 METHOD

Pack my box with five dozen liquor jugs. The five boxing wizards jump quickly. Sympathizing would fix Quaker objectives. Many-wived Jack laughs at probes of sex quiz. Turgid saxophones blew over Mick's jazzy quaff.

- First item in a list
- Second item in a list
- Third item in a list

Table 1: Precision Comparison on Event Detection Methods

	OR Event Detection	AC Event Detection	TC Event Detection
precision	0.83	0.69	0.46
recall	0.68	0.48	0.36
F-score	0.747	0.57	0.4

- First item in a list
- Second item in a list
- Third item in a list
- Fourth item in a list
- Fifth item in a list

- (1) First item in a list
- (2) Second item in a list
- (3) Third item in a list
- (4) Fourth item in a list
- (5) Fifth item in a list

**First** item in a list  
**Second** item in a list  
**Third** item in a list  
**Fourth** item in a list  
**Fifth** item in a list

5 EXPERIMENT AND ANALYSIS

6 CONCLUSIONS

Playing jazz vibe chords quickly excites my wife. A large fawn jumped quickly over white zinc boxes. Exquisite farm wench gives body jolt to prize stinker. Jack amazed a few girls by dropping the antique onyx vase! The quick brown fox jumps over the lazy dog.

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