
TÍTULO DEL TRABAJO A PRESENTAR EN EL CONGRESO NACIONAL DE ESTUDIANTES DE ENERGÍAS RENOVABLES 2021

CONGRESO NACIONAL DE ESTUDIANTES DE ENERGÍAS RENOVABLES 2021

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RESUMEN

Data mining is a good way to find the relationship between raw data and predict the target we want which is also widely used in different field nowadays. In this project, we implement a lots of technology and method in data mining to predict the sale of an item based on its previous sale. We create a strong model to predict the sales. After evaluating this model, we conclude that this model can be used in normal life for future sale's prediction.

1. Introducción

Our project is a competition on Kaggle (Predict Future Sales). We are provided with daily historical sales data (including each products' sale date, block ,shop price and amount). And we will use it to forecast the total amount of each product sold next month. Because of the list of shops and products slightly changes every month. We need to create a robust model that can handle such situations.

2. Datos y metodología

We are provided with five datasets from Kaggle: Sales train, Sale test, items, item categories and shops. In the Sales train dataset, it provides the information about the sales' number of an item in a shop within a day. In the Sales test dataset, it provides the shop id and item id which are the items and shops we need to predict. In the other three datasets, we can get the information about item's name and its category, and the shops' name.

Task modeling. We approach this task as a regression problem. For every item and shop pair, we need to predict its next month sales(a number).

Construct train and test data. In the Sales train dataset, it only provides the sale within one day, but we need to predict the sale of next month. So we sum the day's sale into month's sale group by item, shop, date(within a month). In the Sales train dataset, it only contains two columns(item id and shop id). Because we need to provide the sales of next month, we add a date column for it, which stand for the date information of next month.

2.1. Headings: second level

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$$\xi_{ij}(t) = P(x_t = i, x_{t+1} = j | y, v, w; \theta) = \frac{\alpha_i(t) a_{ij}^{w_t} \beta_j(t+1) b_j^{v_{t+1}}(y_{t+1})}{\sum_{i=1}^N \sum_{j=1}^N \alpha_i(t) a_{ij}^{w_t} \beta_j(t+1) b_j^{v_{t+1}}(y_{t+1})} \quad (1)$$

2.1.1. Headings: third level

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3. Resultados

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The documentation for natbib may be found at

<http://mirrors.ctan.org/macros/latex/contrib/natbib/natnotes.pdf>

Of note is the command `\citet`, which produces citations appropriate for use in inline text. For example,

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\citet{hasselmo} investigated\dots
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produces

Hasselmo, et al. (1995) investigated...

<https://www.ctan.org/pkg/booktabs>

3.1. Figures

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¹Sample of the first footnote.

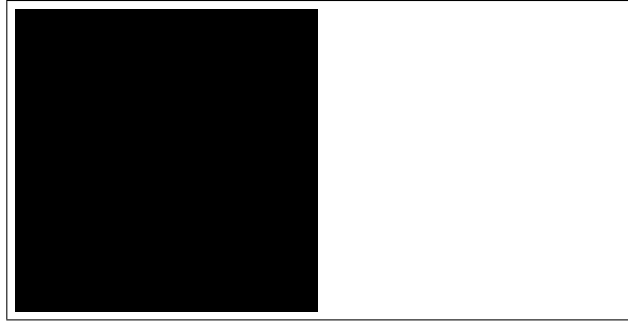


Figura 1: Sample figure caption.



Figura 2: Parque Solar Meuro en Alemanio. Imagen obtenida de *en.wikipedia.org*

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4. Discusión

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4.1. Tables

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Tabla 1: Sample table title

Part		
Name	Description	Size (μm)
Dendrite	Input terminal	~ 100
Axon	Output terminal	~ 10
Soma	Cell body	up to 10^6

magna. Mauris quis magna varius nulla scelerisque imperdiet. Aliquam non quam. Aliquam porttitor quam a lacus. Praesent vel arcu ut tortor cursus volutpat. In vitae pede quis diam bibendum placerat. Fusce elementum convallis neque. Sed dolor orci, scelerisque ac, dapibus nec, ultricies ut, mi. Duis nec dui quis leo sagittis commodo. See awesome Table 1.

4.2. Lists

- Lorem ipsum dolor sit amet
- consectetur adipiscing elit.
- Aliquam dignissim blandit est, in dictum tortor gravida eget. In ac rutrum magna.

Referencias

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