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Linear Regression   Regression (statistics)   Statistics (academic discipline)   List Question

What are some real-world applications of "simple" linear regression?

9 Answers

Anirudh Sharma, Exploring Data Science
Answered May 8, 2018 · Author has **213** answers and **254k** answer views

Linear Regression is a Machine Learning algorithm that is used to predict the value of a quantitative variable. Simple linear regression is actually a basic regression analysis where we have just 2 variables, an independent variable and a dependent variable. Based on the changes made to the independent variable, we predict the value of the dependent variable. Consider a simple example of predicting the amount of crop yield based on the amount of rainfall received. This is pure case of Simple Linear Regression because we have just 2 variables : amount of rainfall (independent variable) and the crop yield (dependent variable).
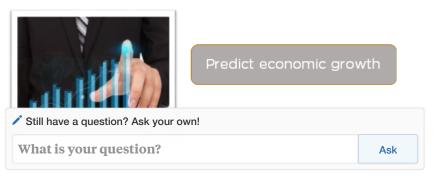
Below are some real world applications of Simple Linear Regression:

1. Linear Regression can be used to predict the sale of products in the future based on past buying behaviour.

2. Economists use Linear Regression to predict the economic growth of a country or state.

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What are some applications of isotonic regression?

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Score Predcition

4. An organisation can use linear regression to figure out how much they would pay to a new joinee based on the years of experience.

Salary Estimation

5. Linear regression analysis can help a builder to predict how much houses it would sell in the coming months and at what price.
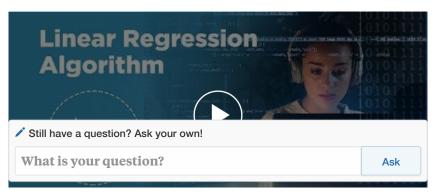

House price prediction

6. Petroleum prices can be predicted using Linear Regression.

Oil price prediction

To learn more on Linear Regression, refer the below videos:

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Nafi Mohammad, Works at Jarus Technologies
Answered Nov 6, 2017 · Author has **205** answers and **287.4k** answer views

Linear regression applies on one model that have two types of variables. **We use one variable to forecast another variable value.** Those variables are called as explanatory variable(Independent variable) and dependent variable. **Now a days to assess a risk, in any field forecast is demanding much than older days as data increases myriad times day by day.** So this linear regression is basic analysis in data analytics. Simply it explains correlation between two given variables. *Here we have a numerical value to define the relation ship i.e,***correlation coefficient (R)(Simple formula is there to calculate).**

Linear Regression form: **Y=a+bX**...output Y is dependent and X is explanatory variable

Real world Examples:

crop yields on rainfall : Yield is Dependent variable (Nothing but Output which we forecast), Rainfall is explanatory variable

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Linear Regression ⧉

For R square : Regression Analysis: How Do I Interpret R-squared and Assess the Goodness-of-Fit? ⧉

Thanks for reading

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Ankur Shukla, former Assistant Systems Engineer at Tata Consultancy Services (2009-2011)
Updated Mar 8, 2018 · Author has **159** answers and **57.1k** answer views

It is imperative to understand that simple regression is the most important and widely used statistical technique with many applications in business and economics.For eg a firm may be interested to know the relationship between advertising and sales.Over a rather shorter range the relationship has been found to be modelled by the simple regression.

Another very popular illustration from the domain of econometrics could be relationship between consumption and income.

There are several other examples of course,i hope these illustrations suffice!

7.1k Views · View 5 Upvoters · Answer requested by Mitesh Shah

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Timothy Yoo, Stanford, M.S. Statistics
Answered Sep 30, 2016

Here are some "real world" examples:

1. Impact of SAT Score (or GPA) on College Admissions

2. Impact of product price on number of sales

3. Impact of rainfall amount on number fruits yielded

4. Impact of blood alcohol content on coordination

15.6k Views · View 15 Upvoters · Answer requested by Samuel Njuguna

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Anoop Vasant Kumar, Data Scientist
Answered Feb 21, 2016 · Author has **132** answers and **405.3k** answer views

If you want to fit a straight line through the data points at hand, and if the relationship between the features and the predicted output seems to be linear then solving the problem using linear regression algorithm is best. To provide further explanation, we find a straight line that could pass through the data points. Examples would be, predicting house prices with increase in sizes of

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Answered Mar 21, 2016 · Author has **318** answers and **127.5k** answer views

Consider rainfall is independent and yield is dependent

variable for rice. you may have 20 years rainfall rate and yield data. Now you

need to decide that how much rice should be imported, so that rice will be

sufficiently

available in market. This is example of regression but I am not sure that the

relation between rice yield and rainfall rate is linear. Compare to Linear

regression

curvilinear is more useful in real world.

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Yogesh, Statistical consultant

Answered Feb 15, 2016 · Author has **188** answers and **124.4k** answer views

My professor told me this long time back.

Well, take a paper into concern

The quality of the paper depends on the quality of the wood pulp used.

So both are correlated. The quality of the wood pulp can also be regressed

against the quality of the paper.

Simple linear regression.

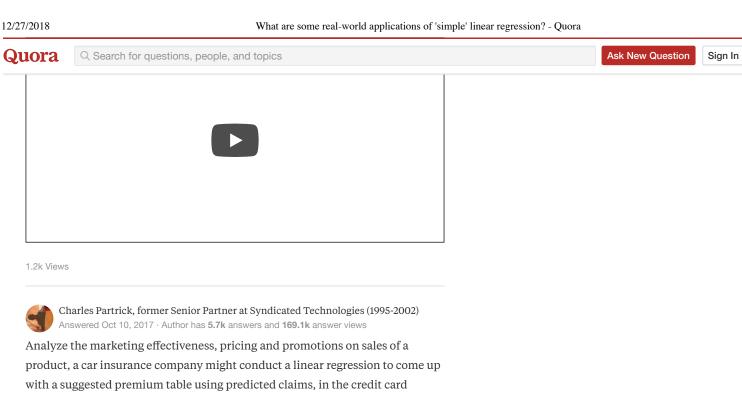10.6k Views · View 7 Upvoters

Mohit Sharma, works at Genpact India

Answered Apr 29, 2018 · Author has **326** answers and **179.9k** answer views

Watch this video to learn Simple Linear Regression with Call Center Example

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1.2k Views

Charles Partrick, former Senior Partner at Syndicated Technologies (1995-2002)
Answered Oct 10, 2017 · Author has **5.7k** answers and **169.1k** answer views

Analyze the marketing effectiveness, pricing and promotions on sales of a product, a car insurance company might conduct a linear regression to come up with a suggested premium table using predicted claims, in the credit card industry, the company maybe interested in minimizing the risk portfolio and wants to understand the top five factors that cause a customer to default.

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How can we overcome the limitations of linear regression analysis?

What is calculating linear regression?

What is linear regression in ML?

What is a real-world application of Chebyshev's inequality?

What are some real-world applications of MCMC?

What are the benefits of using Linear regression over other regression algorithms such as LASSO?
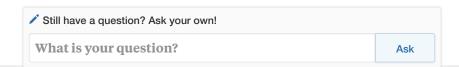
What does linear regression fail at?

What is linear regression analysis?

Do data scientists use linear regression in R?

What do we optimize in linear regression?

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