Course Description

After all of the hard work of acquiring data and getting them into a form you can work with, you ultimately want to make clear, succinct conclusions from them. This crucial last step of a data analysis pipeline hinges on the principles of statistical inference. In this course, you will start building the foundation you need to think statistically, to speak the language of your data, to understand what they are telling you. The foundations of statistical thinking took decades upon decades to build, but they can be grasped much faster today with the help of computers. With the power of Python-based tools, you will rapidly get up to speed and begin thinking statistically by the end of this course.

1 Graphical exploratory data analysis FREE

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Look before you leap! A very important proverb, indeed. Prior to diving in headlong into sophisticated statistical inference techniques, you should first explore your data by plotting them and computing simple summary statistics. This process, called exploratory data analysis, is a crucial first step in statistical analysis of data. So it is a fitting subject for the first chapter of Statistical Thinking in Python.

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2 Quantitative exploratory data analysis

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In the last chapter, you learned how to graphically explore data. In this chapter, you will compute useful summary statistics, which serve to concisely describe salient features of a data set with a few numbers.

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3 Thinking probabilistically-- Discrete variables

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Statistical inference rests upon probability. Because we can very rarely say anything meaningful with absolute certainty from data, we use probabilistic language to make quantitative statements about data. In this chapter, you will learn how to think probabilistically about discrete quantities, those that can only take certain values, like integers. It is an important first step in building the probabilistic language necessary to think statistically.

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