

CHAPTER OVERVIEW

6: Uncertainty of Data

In Chapter 5 we examined four ways in which the individual samples we collect and analyze are distributed about a central value: a uniform distribution, a binomial distribution, a Poisson distribution, and a normal distribution. We also learned that regardless of how individual samples are distributed, the distribution of averages for multiple samples often follows a normal distribution. This tendency for a normal distribution to emerge when we report averages for multiple samples is known as the central limit theorem. In this chapter we look more closely at the normal distribution—examining some of its properties—and consider how we can use these properties to say something more meaningful about our data than simply reporting a mean and a standard deviation.

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[6.2: Confidence Intervals](#)

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