Annotated Bibliography

1. Efron, B., & Hastie, T. (2016). Bootstrap Confidence Intervals. In Computer Age Statistical Inference: Algorithms, Evidence, and Data Science (Institute of Mathematical Statistics Monographs, pp. 181-207). Cambridge: Cambridge University Press. doi:10.1017/CBO9781316576533.012

This is the textbook chapter (11) from CASI that covers the introduction of confidence intervals from bootstrapped data. Some of the methods for creating the CIs are introduced such as the percentile method, bias-corrected percentile method (BC), second-order accurate methods (BCa), and bootstrap t-intervals. This introduces many of these methods, but does not go too much in depth. Chapter 10 from CASI also gives some introduction to the bootstrap that could be used as background in the exposition.

1. Carpenter, J. and Bithell, J. (2000), Bootstrap confidence intervals: when, which, what? A practical guide for medical statisticians. Statist. Med., 19: 1141-1164. [https://doi.org/10.1002/(SICI)1097-0258(20000515)19:9<1141::AID-SIM479>3.0.CO;2-F](https://doi.org/10.1002/(SICI)1097-0258(20000515)19:9%3C1141::AID-SIM479%3E3.0.CO;2-F)

This is a review paper in the field of medicine that gives a quick introduction to bootstrapping including what it is and when it should be used. It gives an example of how a simulation is run for different bootstraps and then goes over some of the methods used to create confidence intervals. The paper includes an example of the process of creating a bootstrap simulation and then choosing a confidence interval. Some of the CI methods that are new are introduced.

1. Efron, B., & Tibshirani, R. (1986). Bootstrap Methods for Standard Errors, Confidence Intervals, and Other Measures of Statistical Accuracy. *Statistical Science*, *1*(1), 54–75. <http://www.jstor.org/stable/2245500>

The first section of this paper gives some more depth to what the bootstrap is and how it is constructed. There are a couple applications using the bootstrap. The last section of the paper talks about confidence intervals and goes into depth comparing them. This paper is one of the earlier ones, so only a few of the methods are discussed such as percentile, bias-corrected, and BCa. Additionally, there are applications using the different bootstrapped confidence intervals.

1. Hall, P. (1988). Theoretical Comparison of Bootstrap Confidence Intervals. *The Annals of Statistics*, *16*(3), 927–953. http://www.jstor.org/stable/2241604

This paper goes heavily into depth about the theoretical aspects of bootstrapped confidence intervals. It focuses on the percentile method, the percentile t-method, a hybrid method, a bias-corrected method (BC), and an accelerated bias-corrected method (ABC). One of the sections theoretically compares the methods as which are the most promising. The theory in this paper might be too advanced for the goal of my exposition.

1. Thomas J. DiCiccio, Bradley Efron. "Bootstrap confidence intervals." Statistical Science, 11(3) 189-228 August 1996. <https://doi.org/10.1214/ss/1032280214>

This paper gives a great summery of confidence intervals and how they can be used through bootstraps to create good confidence intervals. The paper focus on 4 methods: BCa, bootstrap-t, ABC, and calibration and gives examples and theory to show how the CIs are created. There is lots of theory in the paper, but it is presented in a more accessible way than before. There are also helpful figures that could be potentially used to help illustrate how these confidence intervals are created. Overall, this paper is easier to understand and gives good road signs for the material it is going to cover.

1. Rousselet, G. A., Pernet, C. R., & Wilcox, R. R. (2021). The Percentile Bootstrap: A Primer With Step-by-Step Instructions in R. *Advances in Methods and Practices in Psychological Science*. <https://doi.org/10.1177/2515245920911881>

In this blog/tutorial, it shows how to perform a simulation in R using the percentile method for creating a bootstrapped confidence interval. The implementation is in R.

1. Puth, M.-T., Neuhäuser, M. and Ruxton, G.D. (2015), On the variety of methods for calculating confidence intervals by bootstrapping. J Anim Ecol, 84: 892-897. <https://doi.org/10.1111/1365-2656.12382>

In this research paper, it gives a brief explanation about different confidence intervals created through bootstrapping and why it is important to clarify which method is used in analysis. There is an example at the end of the paper that compares 6 different confidence interval methods with some information about how a similar simulation can be implemented in R.

1. Flowers-Cano RS, Ortiz-Gómez R, León-Jiménez JE, López Rivera R, Perera Cruz LA. Comparison of Bootstrap Confidence Intervals Using Monte Carlo Simulations. Water. 2018; 10(2):166. <https://doi.org/10.3390/w10020166>

This is a more recent research paper that compares bootstrap confidence intervals using simulations. This paper uses real data obtained from the National Climatological Database that is then used to construct confidence intervals using the percentile bootstrap, the bias-corrected bootstrap (BC), the accelerated bias-corrected bootstrap (BCa) and a modification of the standard bootstrap (MSB). It is shown how each interval is created and then there is a comparison of the intervals created as well as an analysis of the findings. The simulation is done using different software, but a similar process could be done.