

8.3: Leverage and Measures of Influence

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Topic 8.3: Leverage and Measures of Influence

Read Sections 6.1 to 6.4 of your textbook. As you read, take notes on the following.

1. Write down the formula for h_{ii} , the i th diagonal element of the hat matrix.
2. How do we find leverage points that are potentially influential?
3. Consider Cook's D , D_i .
 - Write down the formulas for D_i .
 - Explain, using your own words, what D_i is measuring.
 - How do we use D_i to detect influential data points?
4. Consider $DFBETAS_{j,i}$.
 - Write down the formulas for $DFBETAS_{j,i}$.
 - Explain, using your own words, what $DFBETAS_{j,i}$ is measuring.
 - How do we use $DFBETAS_{j,i}$ to detect influential data points?
5. Consider $DFFITS_i$.
 - Write down the formulas for $DFFITS_i$.
 - Explain, using your own words, what $DFFITS_i$ is measuring.
 - How do we use $DFFITS_i$ to detect influential data points?

Refer to this file to see how the leave-one-out formula is derived, as well as how the two formulas for the PRESS residual are derived.

 [mod8_leave.pdf](#)

Leave One Out Formula and PRESS Residual