Model Evaluation and Information Criteria

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- In the context of scientific models, there are two fundamental kinds of statistical error [McElreath, 2020]:
  - **Overfitting**, which leads to poor prediction by learning too much from the data.
  - **Underfitting**, which leads to poor prediction by learning too little from the data.
- There are two common families of approaches to tackle these problems.
  - **Regularization**: a mechanism to tell our models not to get too excited by the data.
  - **Information criterio**: a scoring device to estimate predictive accuracy of our models.
- In order to introduce information criteria, this class must also introduce information theory.

The problem with parameters

- Blabla

Information theory and model performance

- Blabla

Regularization

- Blabla

Information criteria

- Blabla

Using information criteria

- Blabla

Conclusions

- Blabla

References I

McElreath, R. (2020).
Statistical rethinking: A Bayesian course with examples in R and Stan.
CRC press.