BIAS
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Uncertainty estimation - Best Practice

- If you can afford uncertainties think about and do it, but ist not a free lunch

- Don't overcomplicate!

- Start from the application and ask why to do uncertainties

- Consider that your ground truth hae uncertainties

- Think about calibrations (monitor your uncertainties)

- Calculate uncertainties of the model of the model on the examples for which you have the ground truth

- Use uncertainties for debugging and to find gaps or incorrectly labeled data

- Useful in production for monitoring and in model development (active learning) – do inference and do uncertainties with human interaction (relabel uncertainly labeled data)

- Another idea: get the most certainly wrongly labeled data and fix it

Uncertainty estimation - Key Challenges

- There is no ground truth for uncertainties, the only important thing is to have a validation set

- Cost , training budget, inference

- Covincing your boss that ist necessary

- Visualization, communication of results