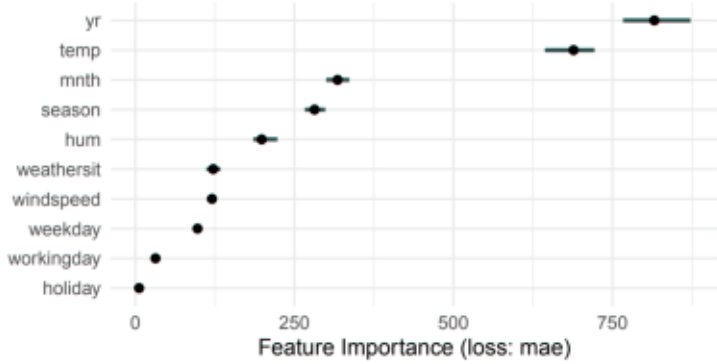
DISCOVER AND GAIN GLOBAL INSIGHTS

⇝ Gain insights about data, distribution and model

Example: Bike Sharing Dataset (predict number of bike rentals per day)

Exemplary question: Which feature influences the model performance and to what extent?



- Year (yr) and Temperature (temp) most important features
- Holiday (holiday) less important (Can we drop it?)

IMPROVE, DEBUG AND AUDIT MODELS

⇝ Insights help to identify flaws (in data or model), which can be corrected

Example: Neural Net Tank ▸ gwern.net

A cautionary tale (never actually happened):

- Train a neural network to detect tanks
- Good fit on training data
- Application outside training data: failure

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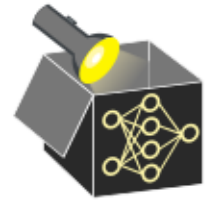

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- E.g. model detects weather based on sky:
  ⇝ All photos with tanks show cloudy sky
  ⇝ Photos without tanks show sunny sky