Meta-learning methods for analyzing Go playing trends

**Game of Go**
- ancient board game
- **black** vs. **white**
- simple rules, complex tactics
- ~24 million of players
- AI is a hard problem

**This work**
- **goal** is to predict player attributes such as strength or playing style from a sample of player's games
- we employ advanced machine learning techniques and sophisticated feature extraction

**Solution:**
- **Feature Extraction**
  - analysis of patterns
  - histograms of events
  - sente/gote, captures
  - wins/losses
  - etc...

- **Machine Learning**
  - evolution of regression ensembles based on stacked generalization
  - various base-learners
    - (bagged) neural networks
    - mean regression
    - Random Forests
    - k-NN
    - PLS

**Results**
- prediction of styles and strength is precise!
- can help Go players by:
  - pinpointing their weaknesses based on the pattern analysis
  - making personalized tips about their playing style
- Realized as a web-application!

**Evaluation**

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<tr>
<th>Learner</th>
<th>RMSE</th>
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**Supervisor:** Roman Neruda
Charles University in Prague
Faculty of Mathematics and Physics

Josef Moudřík

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