

Performance Prediction for Neural Architecture Search

Roman Neruda, Gabriela Kadlecová, Petra Vidnerová

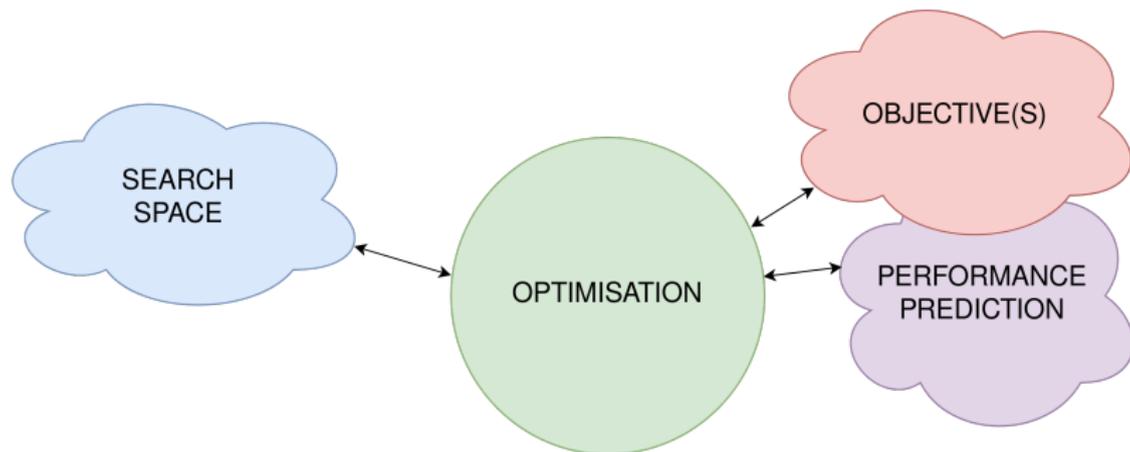
Institute of Computer Science
The Czech Academy of Sciences

Faculty of Mathematics and Physics, Charles
University

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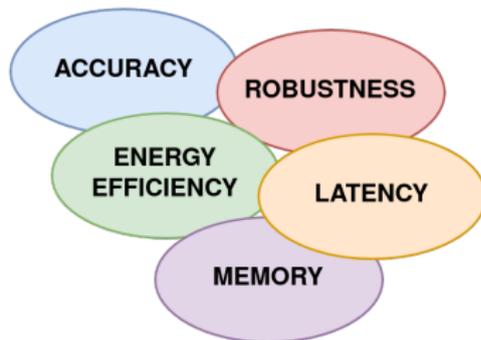


Neural Architecture Search



Future is Multi-Objective

PAST → **FUTURE**



Single Objective

Multi-objective



Performance Prediction

Methods to speed up the NAS process

- ▶ parallel evaluations
- ▶ weight sharing – train large supernet
- ▶ early stopping and learning curve interpolation
- ▶ **performance prediction** and zero-cost proxies

Our goals

- ▶ performance prediction of diverse objectives
- ▶ accuracy, robustness, energy
- ▶ exploring/combining zero cost proxies



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