Title: Evolutionary techniques in AutoML

Author: Rajat Sharma

Department: Department of Theoretical Computer Science and Mathematical Logic

Supervisor: Mgr. Roman Neruda, CSc.

Abstract: AutoML methods search for a suitable pipeline of preprocessing and ML components given a data set representing an ML task. The goal of the thesis is to design an evolutionary optimization algorithm which will search the space of pipelines and propose an optimized solution. Several search approaches, such as hill climbing, simulated annealing and evolutionary search are tested. Implementation of developed algorithms using standard machine learning libraries such as scikit-learn, and their experimental evaluation on benchmark data as also a part of the work.