**Job Shop Scheduling Problems and Mixed Integer Programming Pre-solvers**
**Faculty advisor:** Prof. Christopher Beck

In this project, the classical job shop scheduling problem will be studied. The student will work on a reformulation of a well known mixed integer programming model. The changes in the model will allow for development of a pre-solving algorithm which generates cuts to make finding optimal solutions easier. The student will have a chance to work on modelling of a scheduling problem as well as algorithmic development for optimization software solvers.

Recommended pre-requisites: (a) Previous courses and/or experiences in scheduling, linear programming, constraint programming. (b) Proficiency in C/C++ and IBM ILOG CPLEX Optimizer.