# Artificial Intelligence for Robotics

- Homework 8 -

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**Due date: May 30, 2016**

1. Solve the Travelling Salesman Problem using Simulated Annealing:
   - Get the best solution for the following computation times: 1, 3, 5, 10, 15, 30 minutes.
   - Compare the performance between Random-restart Hill Climbing and Simulated Annealing.
2. Answer the following questions:
   - What are constraint satisfaction problems?
   - What are the components of a constraint satisfaction problem?
   - What is a solution for a constraint satisfaction problem?
   - What is a constraint and how is it represented?
   - What is a constraint graph?
   - What are discrete variables and how are they divided?
   - What is preference?
   - What is a successor function?
   - What is Backtracking search?
3. In class you had a look at four methods for improving the efficiency of the Backtracking search. Explain each approach in your own words.
4. Represent the Sudoku puzzle as a constraint satisfaction problem. You must include the domains, all variables and all constraints needed to solve the puzzle.

- Note: For this assignment, you can work in groups, but always all team members should submit the same files and must be able to present all submitted material. Please indicate the team members in all submitted files.