Bachelor thesis evaluation
"Motion Planning for Autonomous Car Manipulator"

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The goal of the thesis was to design, implement and test methods capable of planning and executing the movement of an autonomous vehicle. The purpose of the vehicle is to transport passenger cars from a production line to a storage area. The primary focus of the thesis was to implement a basic path planning method capable of executing manoeuvres in narrow spaces, expected in crowded parking lots.

During the work that led to the system's implementation, the student worked systematically and autonomously, making steady progress towards the goal. He consulted his work regularly and contributed to activities that did not concern just path planning but also simulator design and environment model building. Moreover, he had to overcome several technical issues related to the implementation of the methods in a real vehicle. The software implemented is mature enough to be deployed in a proof-of-concept logistical system at the Skoda Auto manufacturing plant at Mlada Boleslav. Unfortunately, the experiments presented were limited due to the parking lots filled beyond the operational capacity as a result of the component shortage.

The structure of the thesis itself follows the aims as set in the thesis assignment. The student explains the background of the task, provides an overview of the state-of-the-art, presents the investigated methods and their applicability. Finally, the student evaluates the deployment of the investigated methods in the simulated robot and the actual system. While the work performed was rather extensive, the thesis itself was completed in relative haste, which resulted in a number of technical deficiencies of the thesis text. However, these deficiencies do not affect the thesis results, and the correctness of the solution presented. While the thesis has certain drawbacks, the primary goal of the thesis was achieved, and I classify the work performed as

B - very good.

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