Individual Actuators of a Car-Like Robot with Back Trailer

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Abstract : This paper presents the hardware implemented and validation for a special system to assist the unprofessional users of car with back trailers. The system consists of two platforms; the front car platform (C) and the trailer platform (T). The main objective is to control the Trailer platform using the actuators found in the front platform (c). The mobility of the platform (C) is investigated and inverse and forward kinematics model is obtained for both platforms (C) and (T). The system is simulated using Matlab M-file and the simulation examples results illustrated the system performance. The system is constructed with a hardware setup for the front and trailer platform. The hardware experimental results and the simulated examples outputs showed the validation of the hardware setup.