



Research assistant task

Distance Control on a brick-built train



The objective of this project is to improve an existing distance control system for a brick-built train so that it maintains a constant distance from a train driven manually by a human operator. To achieve this, a Simulink program will be developed and deployed to a LEGO EV3 brick (LEGO Mindstorms). An ultrasonic sensor provides the measured distance, while a motor actuates the lever on the train's remote control.

Task description*

- Familiarization with the hardware setup, programming environment, and existing software.
- Modification and optimization of the existing control algorithm/controller through testing to improve its reliability.
- If required: Development and implementation of custom control algorithms.
- Documentation of the results.

Duration: 60 hours (spread over three months, for example).

Prerequisites: knowledge in control theory and programming are beneficial

Start: as soon as possible

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* Depending on your interests and background, subtasks can also be selected.