

ABSTRACT

The master's thesis consists of 142 pages and encloses 74 figures, 41 tables and 59 references.

In the master's thesis a lane detection algorithm, detecting and recognizing road signs algorithms were developed.

Presented algorithms based on convolutional neural networks, provide qualitative detection of road lines, detection and recognition of road signs, that was confirmed experimentally.

The autonomous electric vehicle was developed that has been analogous to existing industrial designs with the requirements of the inter-university competition Carolo-Cup.

The autonomous electric vehicle provides a possibility for testing new lane detection algorithms as well as detecting and recognizing road signs algorithms.

AUTONOMOUS ELECTRIC VEHICLE, LANE DETECTION, PARABOLIC MODEL OF ROAD LINE, DETECTION OF ROAD SIGNS, RECOGNITION OF ROAD SIGNS, CONVOLUTIONAL NEURAL NETWORK, NEURAL NETWORK TRAINING

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