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DEVELOPMENT OF A SOFTWARE MODEL FOR A ROBOT COMBINE CONTROL SYSTEM

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The article deals with the task of developing a software model of a robot combine control system.

The object of the research is a hardware-software complex for scanning of plantings and adaptive control of a robot combine.

The solution of the control problem is based on the application of the distributed adaptive learning automatic system MURKA. In order to implement the cross-platform and high-performance software being developed, Qt, Boost, OpenMP, CUDA libraries were used. The implementation of the software simulation environment is based on the Unity 3d engine and allows a highly detailed model to simulate the environment in which the robot operates and which it observes through stereoscopic (binocular) vision. The simulation environment allows to pre-teach systems of recognition, decision making and management, which significantly reduces the cost of developing and implementing software.

Keywords: *transport platforms, robotic systems, multi-agent system, recognition, adaptive control system.*

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