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A Three-modal Authentication Method for Industrial Robots

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Abstract : In this paper, we explore a method that can be used in the working scene of intelligent industrial robots to confirm the identity information of operators to ensure that the robot executes instructions in a sufficiently safe environment. This approach uses three information modalities, namely visible light, depth, and sound. We explored a variety of fusion modes for the three modalities and finally used the joint feature learning method to improve the performance of the model in the case of noise compared with the single-modal case, making the maximum noise in the experiment. It can also maintain an accuracy rate of more than 90%.

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