Clap Detecting System Using a Raspberry Pi

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This project consisted in developing an accurate and reliable clap detecting system, using a Raspberry Pi, which read an input – the clapping – and transformed it into a visual of LEDs. The accuracy and reliability were tested through the analysis of the gathered data, which included a total of 250 values. The data was collected with the help of five experimental subjects, who were asked to perform a clapping routine consisting of 10 claps, 5 times each. The outcome was as expected – the LED turned on or off – and then tabulated with a “1” value. If the LED didn’t demonstrate any outcome, the result was tabulated with a “0” value. The results were then analyzed using the single-factor ANOVA (analysis of variance). The input or clapping was read by the system, then passed through the Python program which was converted into the output or the LEDs visual. The analysis of our experimental results supported the goal, showing that the system was 88% accurate and completely reliable, the system was proved to be successful.