AI Surgery Robot

Pratt, Charles (School: Pensacola High School)
Edupuganti, Danish (School: Pensacola High School)

We've developed a robot that has the potential to have a surgical impact on society. Robotic surgical technology enables surgeons to see more clearly, move more precisely, and pinpoint the area of your body that requires treatment. The AI surgical robot that we have created through programming has been put through a test where it would differentiate only red colored pom-pom balls that is similar in surgeries (i.e., using surgical forceps to pick up, move, or remove specific body tissue) and see how well it can complete them and what percentage of the time it did not succeed on the first try. In the test, the machine needed to locate the correct (red) colored pom-pom balls, pick it up, and place it in the correct location (the petri dish). During the trials conducted, the machine scanned and selected the desired red objects and placed them in a petri dish. This illustrates that the robot can utilize the designed software to target and pick up certain things with accuracy and precision. Overall, we achieved our engineering aim since we built a completely automated system that can conduct a surgical procedure correctly without the intervention of a person. Because this machine is a human-programmed device that allows doctors to focus on the precise components of an operation, AI robots can further help surgeons in the future with surgical equipment handling and orientation. Even though this robot is on a smaller scale, it will improve doctors' dexterity and allow them to work in difficult-to-reach areas of the body that would otherwise necessitate open surgery in the future. Robotic surgery provides doctors with a greater range of motion and precision than traditional surgery, which can result in less bleeding and pain after surgery.

Awards Won: