VoltX 2.0: A Rescue Robot that Can Locate and Extract Victims

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The objective of this project is to create a remotely operated rescue robot that can navigate dangerous situations such as a natural disaster or a fire, locate a person in need of rescue, provide them with nourishment or fluids, and extract them from that situation without any direct human aid. Robots currently on the market simply locate, putting a rescuer at risk to extract a victim from a dangerous situation. The elegant solution is to create a robot that can locate, aid, and extract a person in a dangerous situation. My first generation robot could only rescue conscious victims. This year, I took a systematic approach and designed a second generation robot in CAD. I refined and tested each subsystem individually. I created what I call the Victim Extraction System (VES), which now enables VoltX to rescue both conscious and unconscious victims using a series of levers and actuators. Modifications to improve robot performance are continuing. Tests are being developed to evaluate the robot's performance in a search and rescue scenario where a man is lying unconscious in a field. Applications for this robot are numerous, including implementation by the military, firefighters, police, and any organization that is involved in human rescue operations.

Awards Won:

Third Award of $1,000