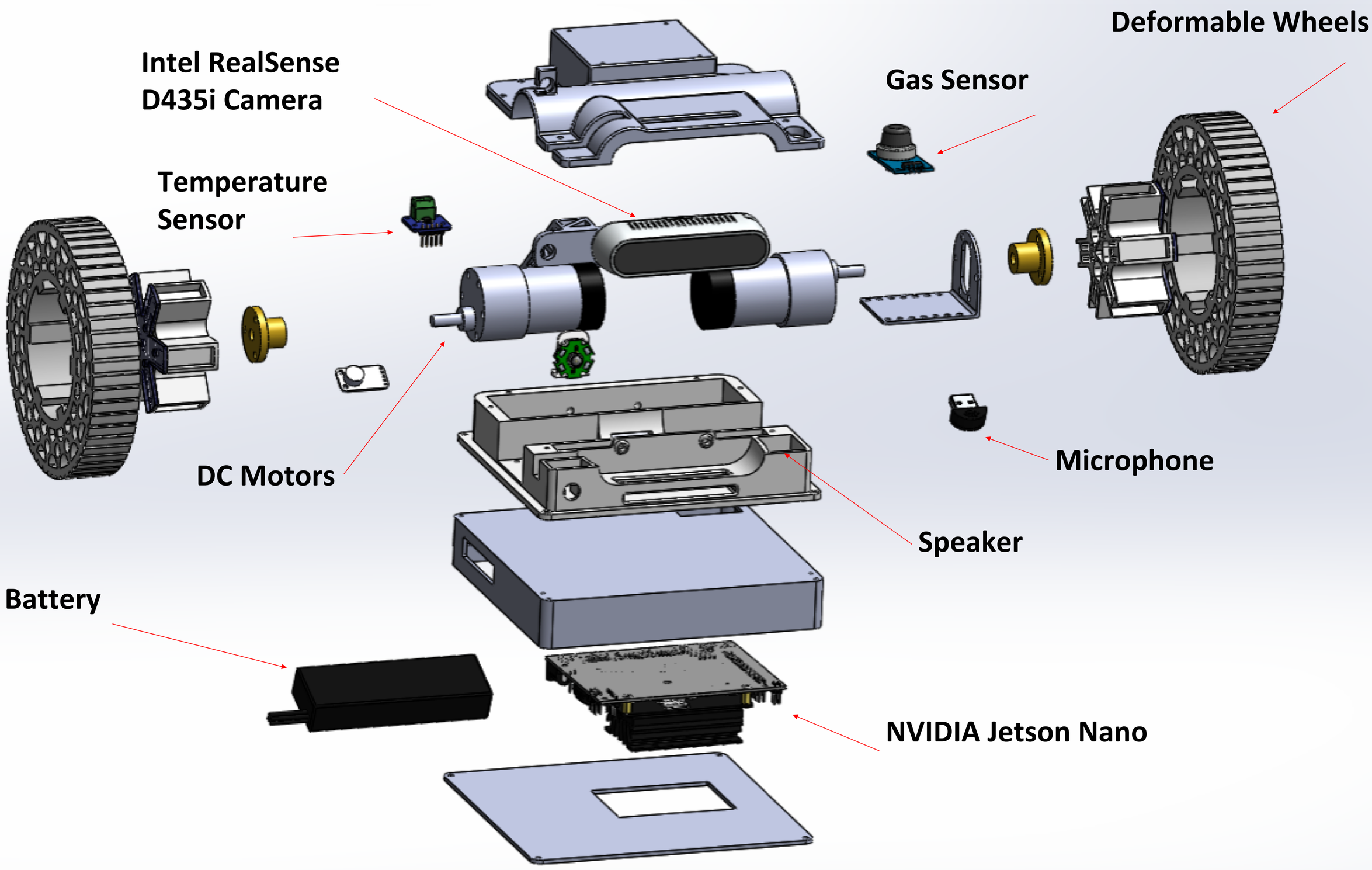
Compact Autonomous Exploratory Search and Rescue Rover (CAESARR)



Research Objective

Design and build a fully functioning autonomous **C**ompact **A**utonomous **E**xploratory **S**earch **A**nd **R**escue **R**over (CAESARR) with mapping and sensing capabilities that can serve as a first responder and help firefighters identify fastest and safe paths to detect and rescue victims.

Research Approach

Formulate requirements with JPL input

- Operation time of at least 25 minutes
- High impact and temperature resistant
- Equipped with the necessary sensors (e.g., detect humans) to assist in search and rescue operations
- Environmental and localization mapping
- Transmit data in real time to the Mobile Ground Control Station (MGCS)

Iterate design concepts and hardware (e.g., DC motors with encoders, Intel RealSense Camera) and prototypes and conduct testing.

Research Team

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