The problem is that doctors struggle to reach patients in remote areas. To alleviate this accessibility issue, InTouch Health has developed the Vita, a remote care robot. While powerful, the Vita requires a lot of manual input to operate.

Our goal was to abstract away these manual processes, by creating automated context sensitive actions, and allow doctors to focus on providing care for their patients.

Our solution is an augmented reality interface, in which doctors can click on objects and interact using context sensitive actions. Our two module solution is connected by a UDP interface. The classification module focuses on real time object detection and facial recognition. The robot module draws a visual overlay and uses the Vita's robot API to provide actions.

The classification module detects people and monitors in the Vita's video feed. Each object is encompassed in a rectangular bounding box and the coordinates are sent back to the Vita. If a user wants to obtain more information on a person, this module runs facial recognition to pull up the person's staff or patient record.

Zoom improves upon manual zoom by using an object's relative size to determine the appropriate zoom magnitude.

Approach provides an automated drive method, by facing the object and moving in a straight line towards it.

Center allows the doctor to focus the camera on a object, by using the target's relative coordinates in the image.

Identify allows the doctor to access information on a staff member or patient, such as specialty or medical history.

YOLO (You Only Look Once) performs real time object detection of people and monitors. Bounding box coordinates for these objects are sent to Vita.

TensorFlow classifies images of 'staff' and 'patients' using retrained Inception-v3. If a user wants more info on a person, Tensorflow will classify them and their corresponding records will be fetched.

Team: Sabal Malhan, Hanna Vigil, Nate Pincus, Donnie Li, Ethan Wang
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Mentors: Marco Pinter, Davor Magdic, Ole Eichhorn, Jennifer Chloe, Andy Young