

PROJECT 2

**Interaction designer
and competitive
swimmer propelled by
a relentless desire to
make waves.**



[NAME] is an Interaction Designer and competitive swimmer propelled by her relentless desire to make waves. While she may be small in size, [NAME] recently brought her big ideas to Microsoft, where she worked as a UX Design Intern to build an AI product from the ground up. When she's not designing, [NAME] can be found travelling the world (so far, she's visited 26 countries!), tinkering with an Arduino, or teaching first aid and CPR.

An interactive CPR manikin that increases first aider confidence by providing realistic practice and real-time feedback.

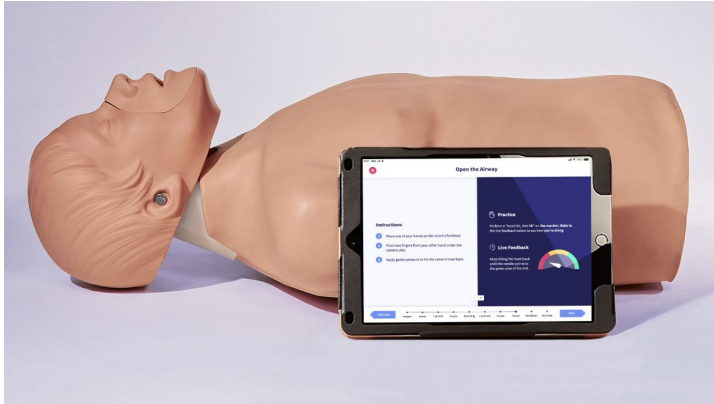
RALF (Rescue Assistant with Live Feedback) is an interactive CPR manikin that increases first aider confidence by providing realistic practice and real-time feedback. The manikin's accompanying interface provides detailed visual feedback to help first aiders perfect their CPR technique, teaching them to put their CPR knowledge into practice. Through the use of five sensors and an Arduino microcontroller, RALF detects and provides feedback on airway openness, ventilation volume, ventilation timing, compression rate, compression depth, and AED pad placement.

When faced with an emergency, an astounding 70% of trained first aiders fail to respond. When asked why, many cite a lack of confidence in their CPR skills. As a first aid and CPR instructor, I see the disconnect between the theoretical knowledge provided during training and the practical application of skills needed to successfully respond in an emergency. In the case of CPR, bridging this gap could literally mean the difference between life and death.

RALF (Rescue Assistant with Live Feedback) is an interactive CPR manikin that works with an interface to provide first aiders with a platform for realistic practice and personalized feedback on their CPR performance. Through the use of five sensors and an Arduino, RALF detects and provides feedback on airway openness, ventilation volume, ventilation timing, compression rate, compression depth, and AED pad placement.

First aiders can use RALF anywhere and anytime to receive feedback without having a certified instructor present. This robust, mobile, and low-cost solution can be used to bolster training courses or as a refresher tool in schools, workplaces, or even at home. Through continued use, first aiders can get to know what effective CPR really feels like, develop muscle memory, and become confident enough to truly save lives.

Project images



Liquid Flow Meter
Ventilation Volume
& Ventilation Timing

Force Sensitive Resistor
Chest Compression Depth
& Chest Compression Rate

Flex Sensor
Airway Openness

Hall Effect Sensor
AED Pad Placement

Hall Effect Sensor
AED Pad Placement

