

## BACKGROUND

What is Augmented Reality?

Augmented Reality or AR is virtual images that are displayed in real time in our reality & environment

With the use of AR goggles like Microsoft HoloLens and Phones, we can display 3D images and holograms for other users to see.

PTC has developed a software called Expert Capture that allows users to develop AR experiences to help with learning, training, and operating in various environments.



This Video demonstrates some of AR experience that have been created for the FANUC welding robot. You will also see footage from the HoloLens from the operator's perspective.

## OBJECTIVE

Our objective is to use Augmented Reality to boost the level of learning and create more opportunities for hands on learning.

Students and workers will be able to experience in first person how to perform the necessary steps in order to be successful in the current task or operation through Augmented Reality.

We want Schools, businesses, and Factories to start incorporating Augmented reality to help boost the training and learning programs they provide to their students and employees.

## RESULTS



**STUDENTS:**  
Students gave lots of feedback about how more efficient it was to learn using AR and virtual experience. It allowed them to go at their own pace.

**HANDS ON:**  
The experience allowed students to have more hands-on approaches when learning new things. Students loved how much they were able to do themselves.

**CHALK HELP:**  
If a student got stuck on a task, they can use an app chalk, made by PTC that can contact an expert. This app shows video like facetime and the expert can walk through with the students what's going wrong while drawing and directing the student on their screen.

**EXPERT VIEW:**  
Students were able to watch experts from first person complete the tasks which made it easier for them to understand how to complete it.

**AR EXPERIENCE:**  
Utilizing Augmented Reality is a huge positive when learning. AR uses 3D CAD models, environments, and directions to train participants. This allows students to learn more effectively.



## FANUC WELDER ROBOT

This welding robot is used in many manufacturing companies today. This robot can operate various movements and welding processes from operator made programs. It can be very complex, but through AR, we can help students become Experts with this machine. The current experience that we provide teaches students how to set up, program, and operate this amazing piece of machinery.

## EXPERIENCE THE (3D) AR TUTORIALS

1. DOWNLOAD VUFORIA VIEW  
Use HoloLens or Phone to use experience
2. WHILE CONNECTED TO "EDUROAM," OPEN VUFORIA VIEW & SCAN OUR CONFIGURATIONS
3. RESTART APP AND SELECT AN EXPERIENCE

