

# An immersive Extended Reality (XR) education environment with embedded Artificial Intelligence training support aids.



## OVERVIEW

The Armed Forces have a national defense-related mission need in the area of mobilizing an Immersive Artificial Intelligence (AI) Framework allowing Warfighters, experts and trainers to rapidly create immersive content and then systematically and objectively quantify the efficacy of Augmented Reality (AR)-enabled simulations. There is an opportunity to enhance mission training functions by implementing an immersive Extended Reality (XR) education environment with embedded AI training support aids. ARMR is a robust XR training capability with embedded AI that accelerates the creation of adaptable, scalable, intuitive and measurable training solutions for mission command environments.

## TECHNICAL

ARMR is based on a Service Oriented Architecture (SOA) that delivers standardized training data to a heterogeneous environment of emerging display platforms. ARMR provides real-time, tactical and non-tactical training data to a dynamic set of immersive display technologies through platform and device agnostic interfaces. It is built on top of industry best practices in information assurance (IA) to mitigate costly data spillage.

ARMR integrates an AI-based framework built around a deep Convolutional Neural Network (CNN) architecture that provides the ability to automatically detect and identify targets of interest.

ARMR leverages the power of the deep CNN classification and identification algorithm to initially determine if there is a target of interest via the immersive display. Embedding the AI platform with ARMR provides the trainee additional training aides to enhance the training experience.

