

The block diagram of the virtual retinal display taken from the CSEIT paper consists of following blocks: photon generation, intensity modulation, beam scanning, optical projection and drive electronics. Photon generation block generates the coherent beam of light; this photon source make use of the laser diodes as coherent source with retina display to give a diffraction onto the retina of the human eye. The light generated from photon source is intensity modulated. The intensity of the light beam gets modulated to match the intensity of the image.

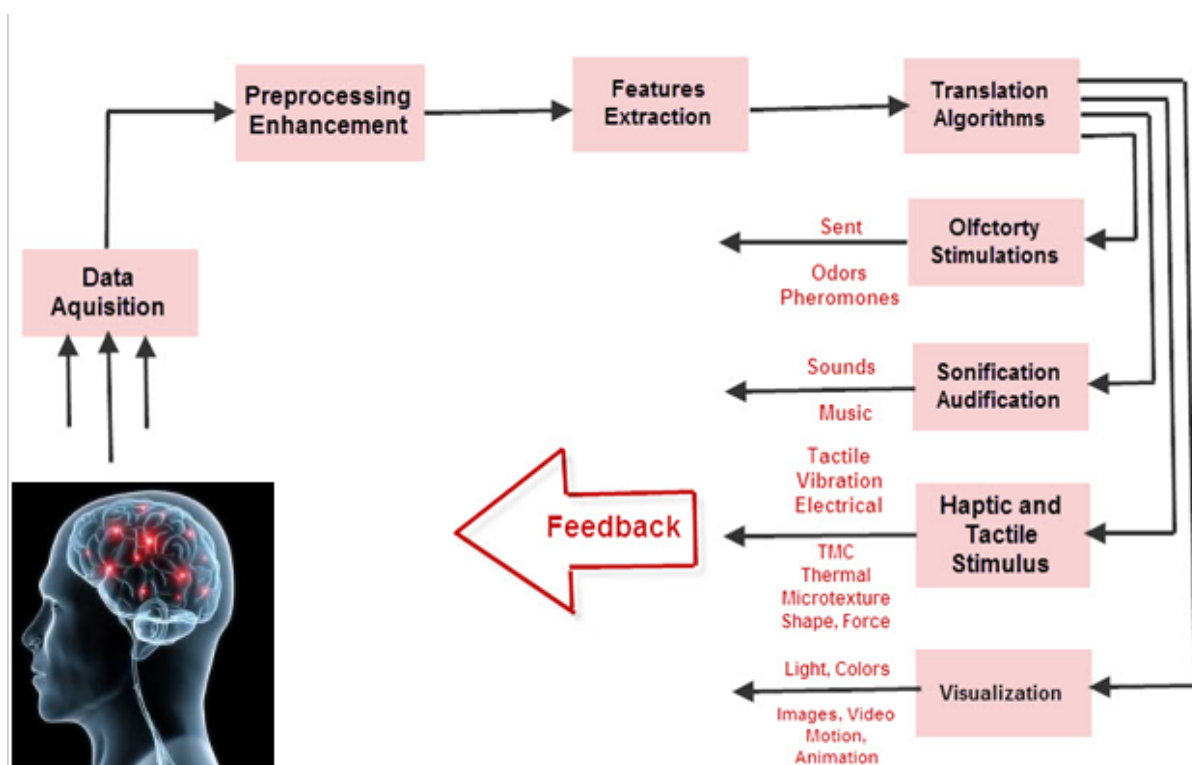


Figure 1.2: Block Diagram of Synaptic Interface

Source: Synaptic Interface screen-less video does not use light at all, visual information completely bypasses the eye and is transmitted directly to the brain.

<https://www.elprocus.com/introduction-to-screenless-displays-and-their-types/>

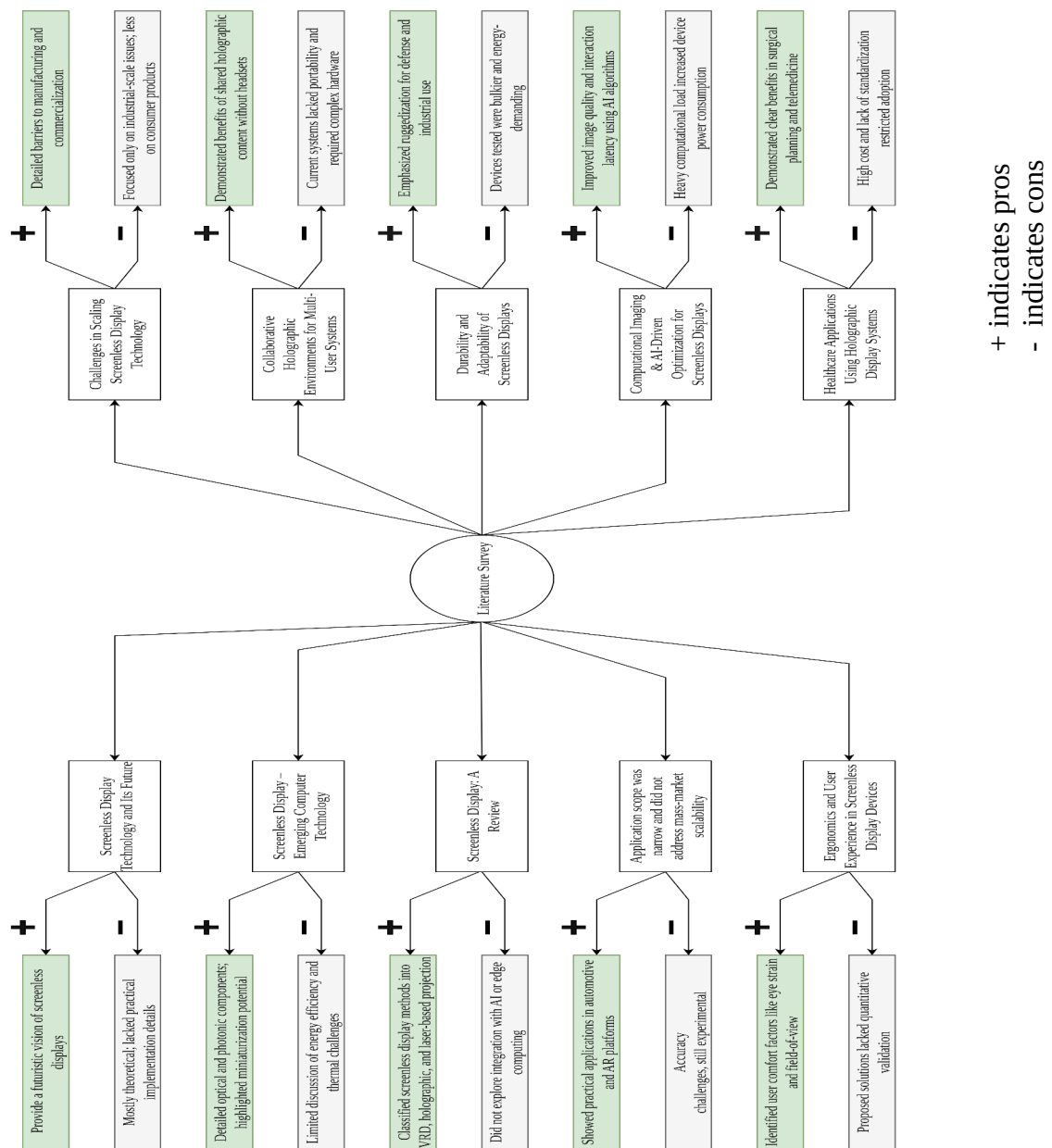


Figure 2.1: Mind Map Representation of Key Research Trends and Findings in Screenless Display

and energy harvesting systems (e.g., wireless charging via magnetic resonance) for untethered operation. Their high energy efficiency makes them ideal for mobile.

These tools collectively allow for the development of compact, responsive, and energy-efficient screenless systems suitable for diverse environments ranging from sterile medical theaters to rugged outdoor industrial sites.



Figure 3.1: AR/VR(Augmented Reality and Virtual Reality) headset

Source:AR/VR headset, integrating input sensors, processing units, eye-tracking, audio systems, and power management into a head-mounted device

<https://emag.directindustry.com/2021/08/31/are-we-heading-towards-a-screenless-future/>

Eyewear-based AR systems with integrated gesture recognition and context awareness have enabled intuitive, hands-free operation in both consumer and industrial settings. Deep learning models embedded within these systems enhance interaction precision and adaptability