Lecture 22: Augmented Reality

Virtual Reality
- Immersive Rendering
- Completely Synthetic
- Interactive

Visual Special Effects (VFX)
- Fuse Real and Synthetic
- Offline and Online parts
- No or minimal interaction
Visual Special Effects (VFX)

Life of Pi, Rhythm and Hues, 2013

Augment

Capture the real world

Model the virtual world

Avengers Infinity War Shot Breakdown (Framestore)

Augmented Reality

- Real-time
- Interactive
- Synthetic elements merged with the real world.

Augmented Reality Examples

- Advertising
- Navigation
- Digital Heritage
- Retail
- Education

Augusted Reality (AR) is a view of the physical, real world environment that is augmented by synthetic, computer-generated elements.

It was coined by Thomas Caudell, in 1990, while working at Boeing.

AR straddles the disciplines of Computer Vision and Computer Graphics as it needs Vision to understand the real world and it needs Graphics to create the synthetic elements to augment it.

See Through AR

Microsoft Hololens, 2016

NASA, 2017
Spatial AR