Spatial Learning in Higher Ed:

Welcome to the Future

BROWARD COLLEGE

Magic Leap

FAU FLORIDA ATLANTIC

Today's Presenters

Alex Haber

Head of Magic Leap Education

Chris 'Topher' Maraffi

Professor, Multimedia Studies

Annie Myers

Associate Dean, Information Technology

Dr. Hari Kalva

Associate Chair and Prof, Dept. of Computer & Electrical Eng. and CS

Agenda

XR in Education Overview

Magic Leap Education Program Overview

Spatial Learning Spotlights: FAU & Broward College

Panel Discussion

Q&A

State of Higher Education

Faculty, researchers and students are hungry for better tools and solutions...

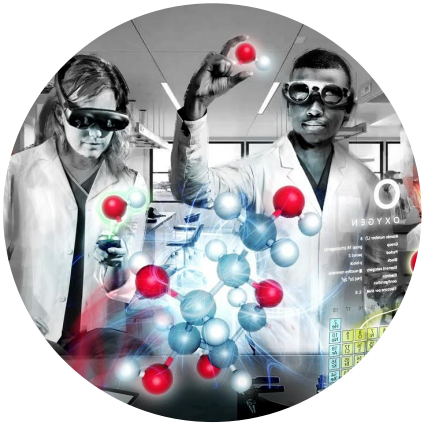
Not Engaging Enough

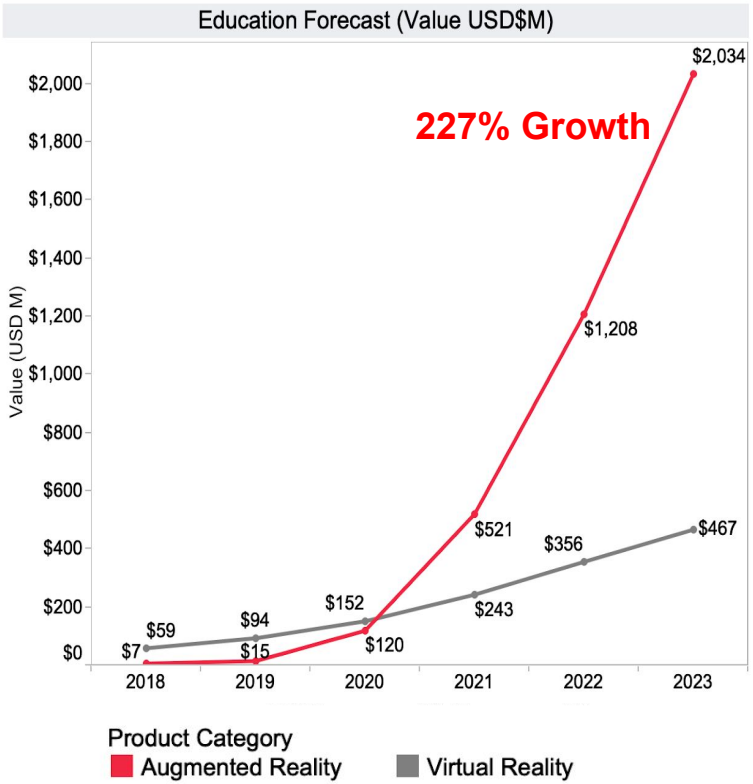
Too Expensive... Too Flat

State of XR in Education

The spatial learning revolution is under way!

- IDC projects that EDU will procure ~**2.5 million** AR headsets over the next four years*

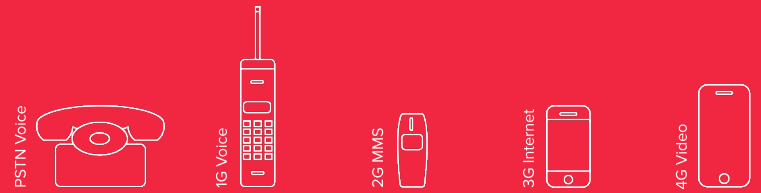




* International Data Corporation AR/VR Market Analysis, 2019

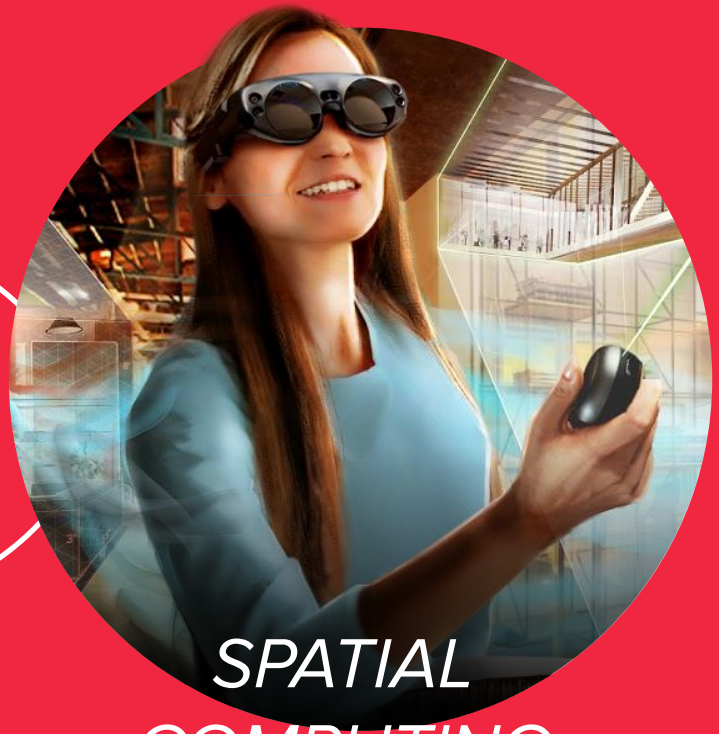
Technology Moves Fast

Spatial Computing is the New Frontier...



Evolution of Communication Devices

Evolution of Personal Computer Devices



SPATIAL COMPUTING

5G+ Mobile internet and general purpose computing replaced by one device.

Spatial Learning Solutions: Caegories of XR

VIRTUAL REALITY

Digital environment that isolates you from the physical world

AUGMENTED REALITY

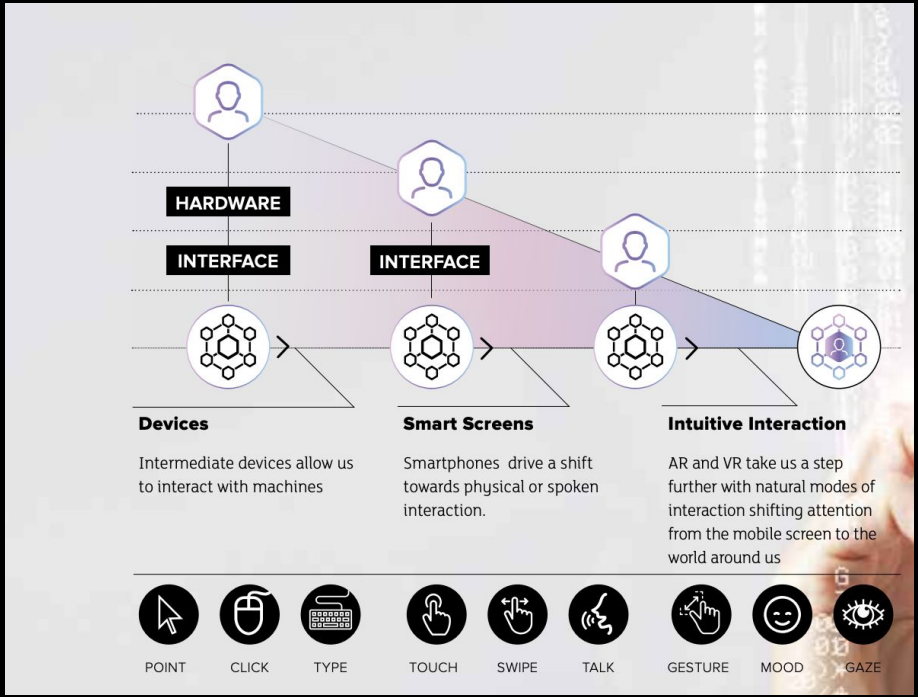
Digital content **on top** of your physical world

SPATIAL COMPUTING

Digital content **interacts** with your physical world

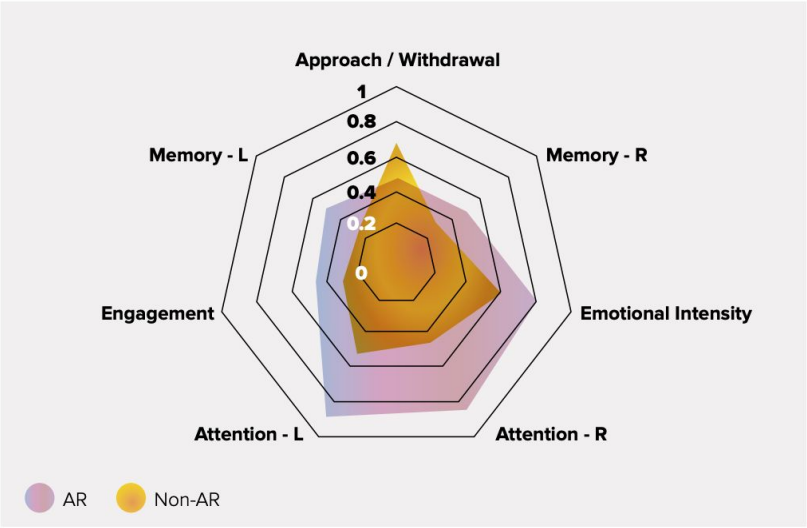
Spatial Learning: Empirical Evidence

- Humans evolving from point, click, swipe to **Gestures, Mood & Gaze**
- Augmented Reality delivers **45% higher engagement** than traditional 2D screens



Source: Mindshare Futures, April 2018

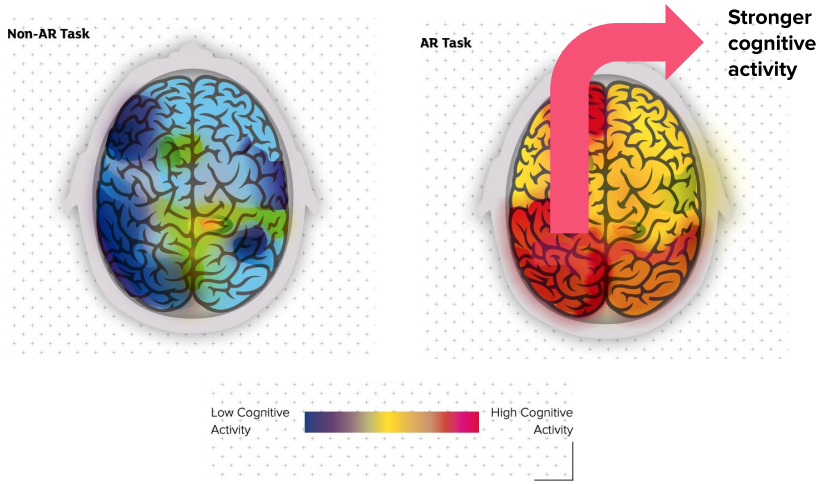
Average levels of Brain response during tasks



Source: Neuro insight study Mar 2018 | n=151 users

Brain activity measured using SST headsets; unit of measurement is radians, which equates to strength of brain response.

Cognitive Activity During AR vs. Non-AR Tasks



Source: Mindshare Futures, April 2018

Spatial Learning Focus Areas

COMMUNICATION, COLLABORATION & CO-PRESENCE

Making groups of people more productive across space and time

SPATIAL VISUALIZATION

Making decisions with contextually relevant and real-time spatial data

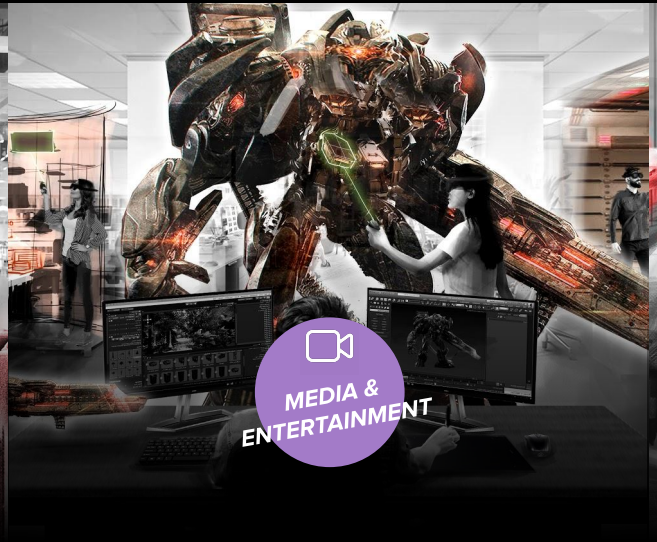
LEARN & ASSIST

Improving revenue and operational efficiency with revolutionary ways to train and assist

LOCATION-BASED EXPERIENCE (LBX)

Enhancing destinations with premium, curated experiences

Spatial Learning Impact Industries



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MAGIC LEAP EDUCATION

PROGRAM OVERVIEW

magic leap




Our Approach: Forging a Transformative Relationship

Developer Portal

ML1 Onboarding

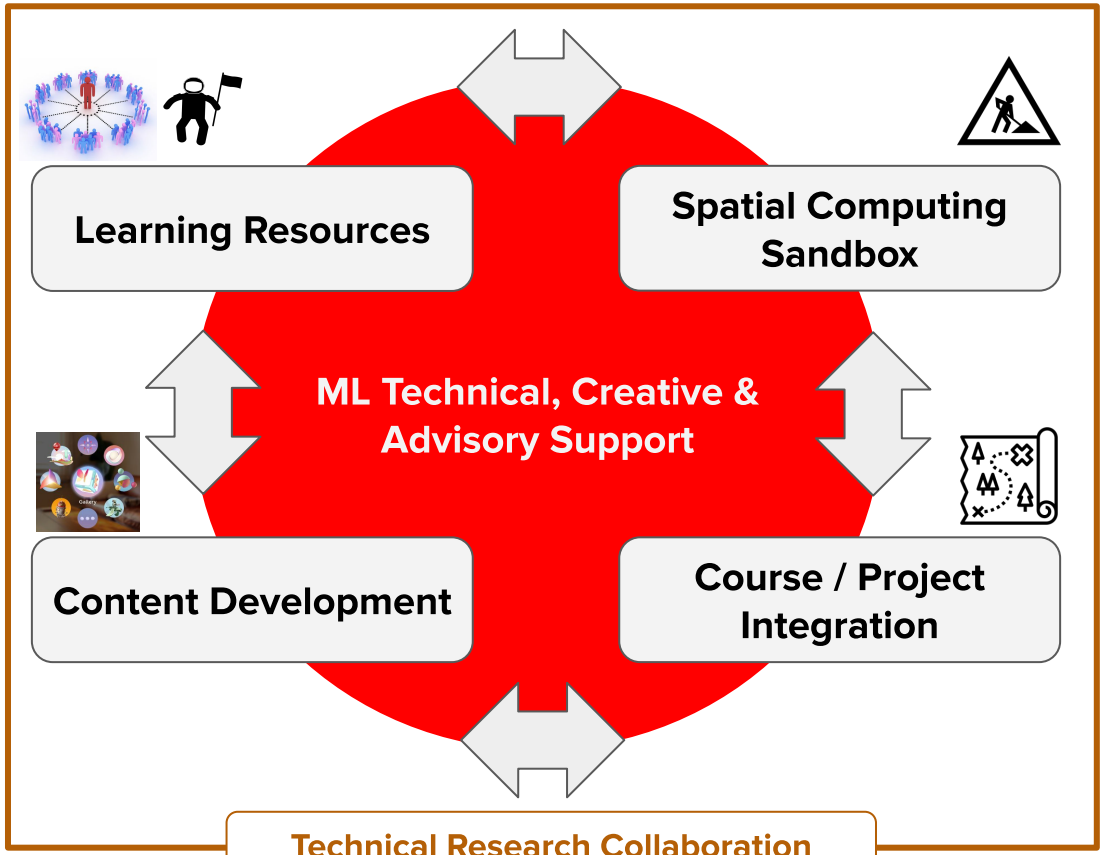
Instructor Bootcamp

Spatial Computing Curriculum

ML World Apps

Private Apps

Experiments / Courseware



Libraries

Makerspaces

Labs

Building in...

Authoring with...

Teaching through...

Teaching about...

Academic Disciplines <> ML App Mapping

Human Anatomy & Physiology

MEDIVIS AnatomyX

Computer Science / Game Development

unity

UNREAL ENGINE

Digital Art & Music

Spatiate

Ambeo

Astronomy

universe SANDBOX

Chemistry

xennialdigital moleculebuilder

Earth Science

xennialdigital climatechange

Undersea
(by Magic Leap)

Architecture & Design

wayfair

Showroom

arVizio

Journalism & Media

CNN

cheddar

Madefire

The New York Times

Multi-Discipline Platforms

Manifest

Sketchfab

Nebula

Spatial

Visualizer

Many Apps on the Way in Biology, Mathematics and More!

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Extended Reality (XR) Emerging Technology

- 360 Interactive Video
- Virtual Reality (VR)
- Augmented Reality (AR)
- Mixed Reality (MR) or Spatial Computing (Magic Leap)
- For mobile devices or headsets
- Convergence of games, animation, and film, so includes supporting tech like virtual production & AI

FAU MTEn Lab XR Research

- **MODS App-titude STEAM (STEM+Art) Exhibit Design**
- **Performative Theatre Games & Actor Training**
- **Historical-Heritage Site Tours & Social Justice Applications**

Mitchelville AR/MR Tour Project

- **Free AR Tour app for mobile phones, and a paid guided tour with Magic Leap headsets.**
- **Edutainment application for a Reconstruction-era historical site and Gullah Geechee heritage site in Coastal South Carolina.**
- **Collaborators: Mitchelville Preservation Project, Penn Center, Magic Leap, MODS, and scholars from USCB, NCSU, CCU, and FAU.**

Model by Ledis Molina

Spatial Computing at Broward College

- **XR Degree Program**
- **Ideas Lab**
- **Magic Leap *Instructor Bootcamp***
- **Broward College Hackathon**
- **Other Disciplines for XR:** anatomy, architecture, health sciences, aviation, etc.

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THANK YOU

Want to learn more?

Alex Haber | ahaber@magicleap.com