CS 460
Computer Graphics

November 17, 2021
10:00 A.M. E.T.

What's the Tea on the Metaverse?!

What young engineers need to know about the metaverse.

Jasmine Roberts
AR/VR Engineer

Briggs-Rauscher Reaction

About Me

Q: What sparked your interest in augmented and virtual reality?

I was always intrigued by what constitutes physical reality.

The span of my academia studies:

Chemistry → Physics → Electrical Engineering

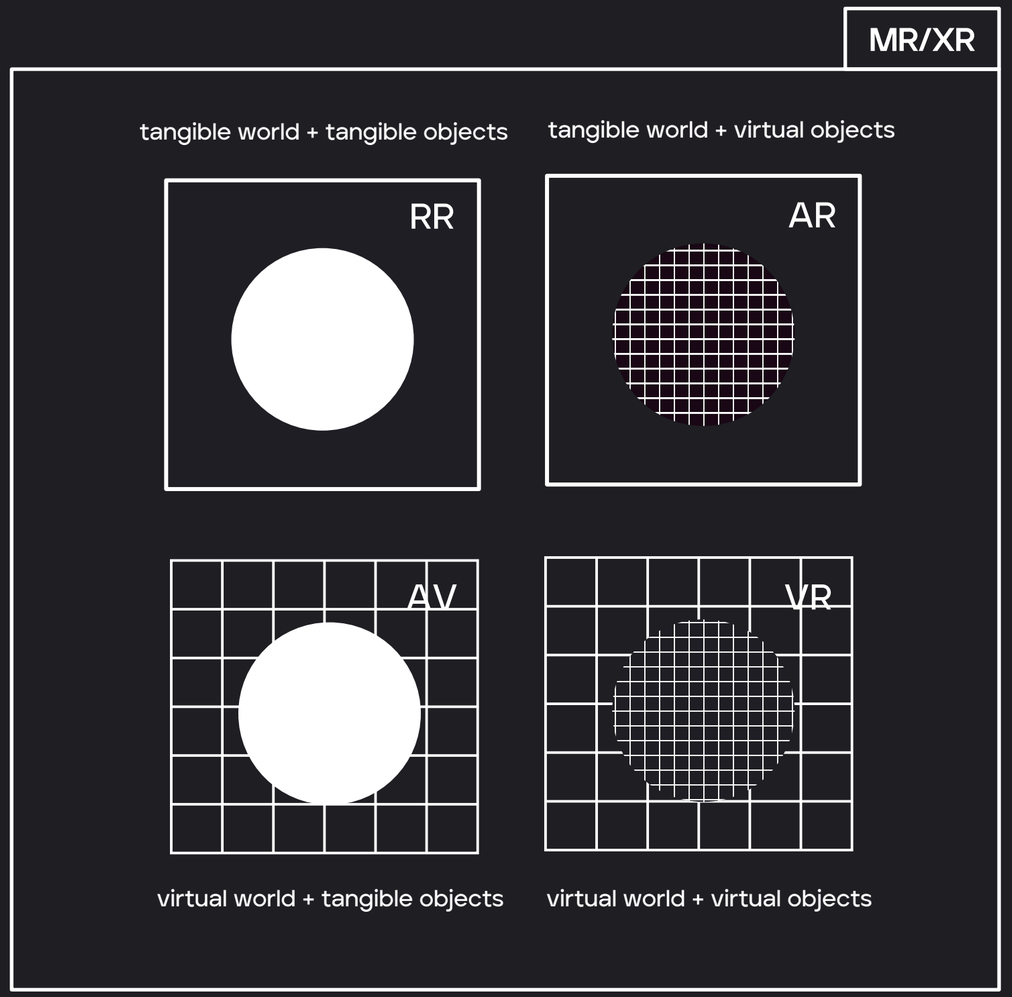
Computer Science → Design → Bioengineering

Glossary

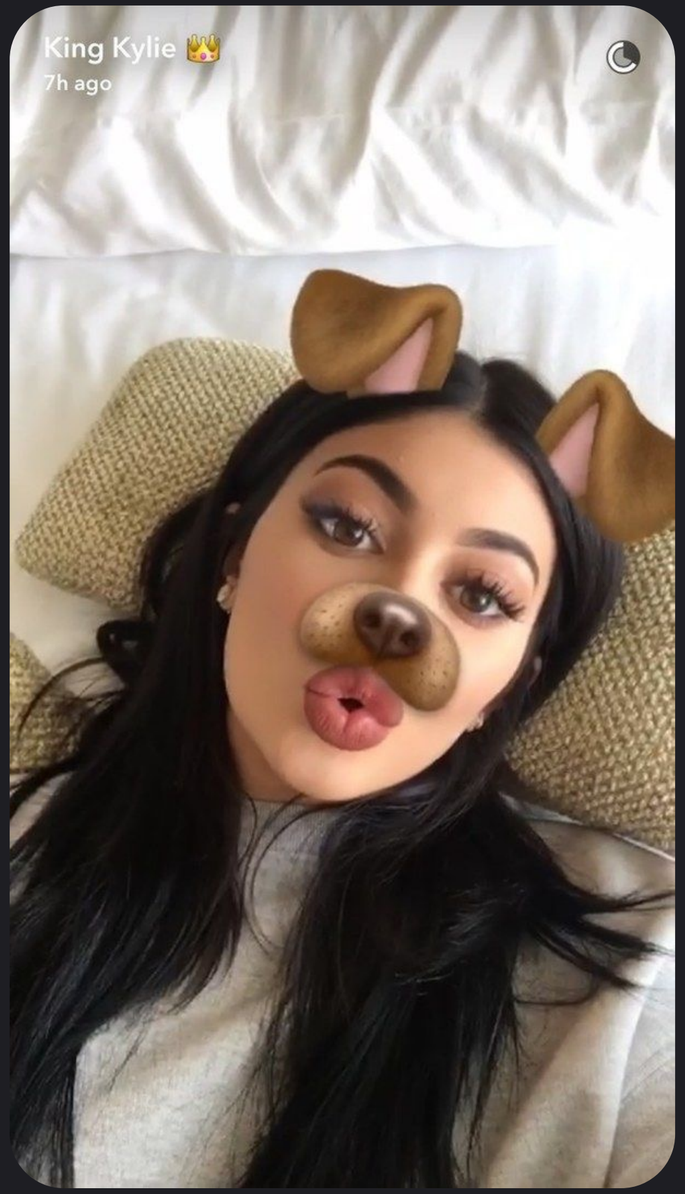
These terms are not up for discussion!

If you'd rather discuss acronyms than code, you'll fit in well on Twitter.

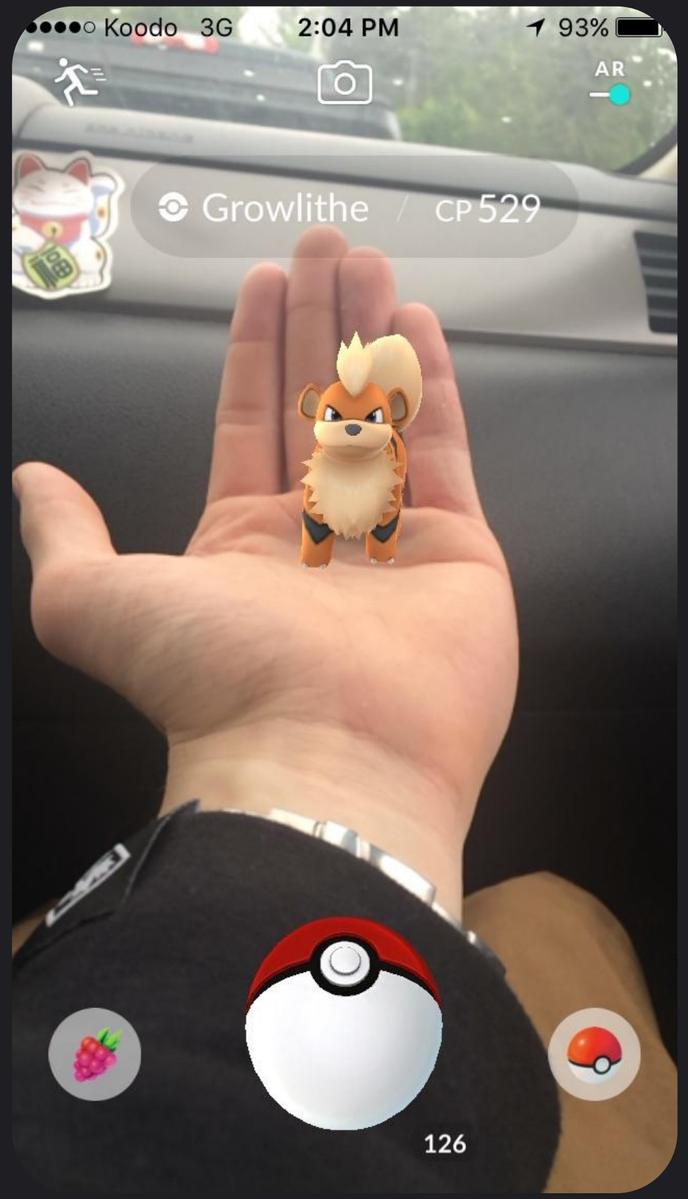
TRIGGER WARNING
It's more frustrating than Node.JS



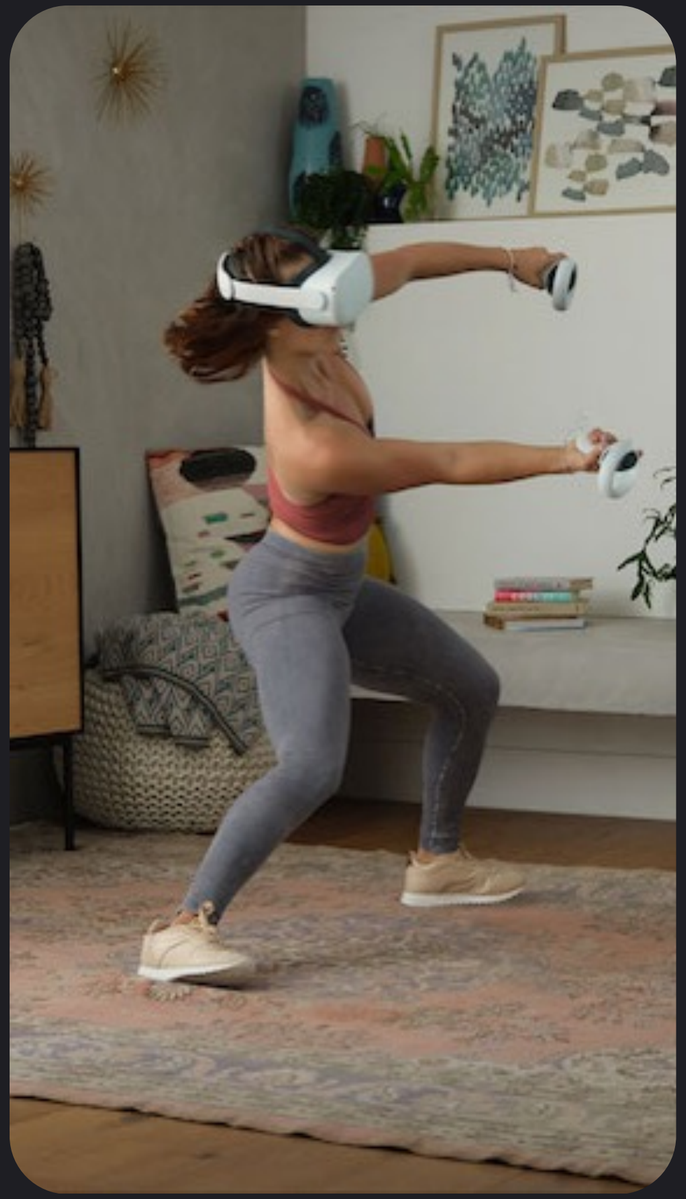
- XR = Extended Reality, Mixed Reality
- AR = Augmented Reality
- AV = Augmented Virtuality
- VR = Virtual Reality



Augmented Reality - Face Filters



Augmented Reality - Pokémon Go



Virtual Reality - Oculus Quest

So, what is the Metaverse?

The virtual ambience? The internet in three dimensions? Alternate economies and universes? All of these terms refer to the metaverse.

The Metaverse is not ~~Facebook~~ Meta!

Why the media cares about the metaverse.

Why we (should) care.

Ready Player One

Keiichi Matsuda - Hyperreality
SYSTEM UPDATES AVAILABLE
3 NEW MESSAGES
NEXT STOP
DOWNTOWN
off here
POINTS MANAGER
Let's prevent this!

--- What are the Rules of the Metaverse?

There is only one metaverse

The metaverse is for everyone

Nobody Controls the Metaverse

The Metaverse is Open

The Metaverse is Hardware Independent

The Metaverse is a Network

The Metaverse is the Internet

h/t Tony Parisi

--- What are the Layers of the Metaverse?

Games, Social Esports, Games, Shopping

Ad Networks, Social Curation, Ratings, Stores, Agents

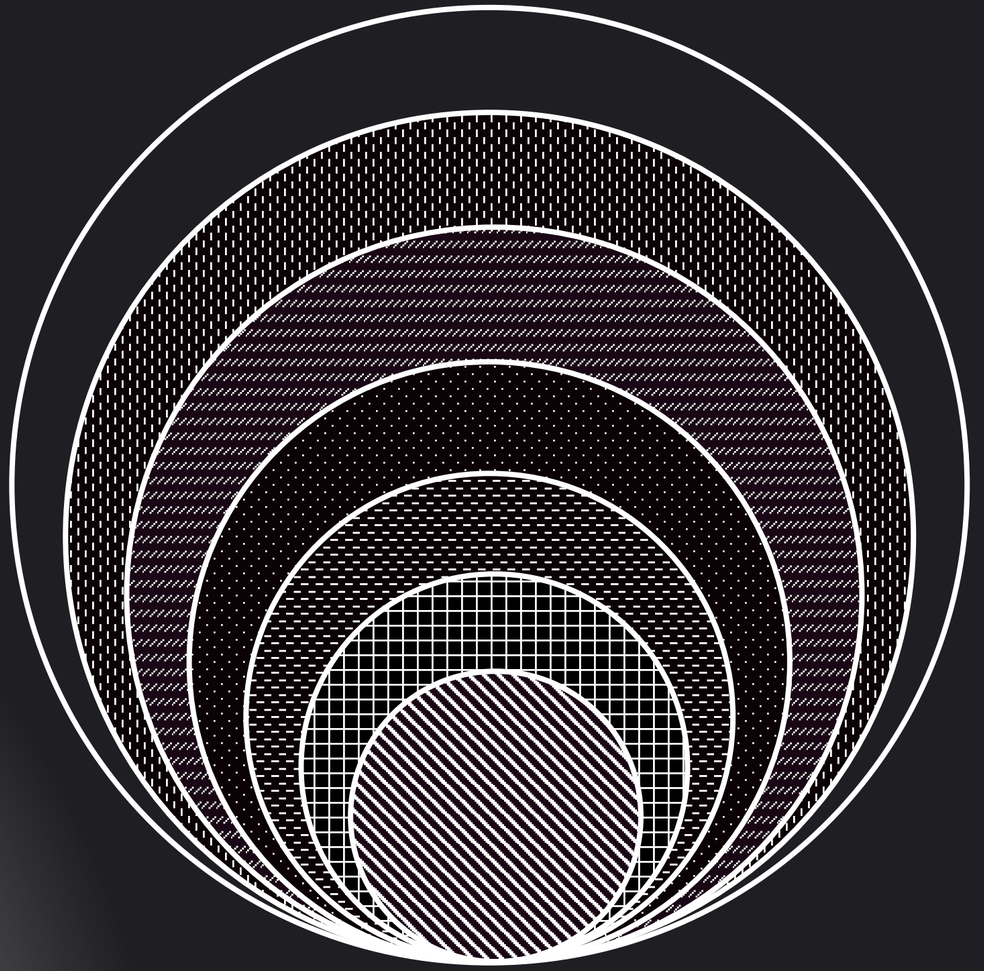
Design Tools, Asset Markets, Workflow, Commerce

3D Engines, VR/AR/XR, Multitasking UI, Spatial Mapping

Edge Computing, AI Agents, Microservices, Blockchain

Mobile, Smartphone, Wearable, Haptic, Gesture, Voice, Neural

5G Wifi 6, 6G, Cloud, 7 nm to 1.4nm, MEMS, GPUs, Materials



Experience

Discovery

Creator Economy

Spatial Computing

Decentralization

Human Interface

Infrastructure

h/t Jon Radoff

310%

Demand for AI Engineers in 2021

— HIRED

Machine Learning Engineer, Data Scientist, Deep Learning Engineer

1400%

Demand for for AR/VR Engineers in 2021

— HIRED

AR Engineer, Gameplay Programmer, VR Engineer, Software Engineer, AR/VR

What are the most used XR platforms?

Artists Creative Coders	Programmers	Web Developer	Artists Creative Coders	Architects/3D Artists Programmers
 Spark AR	 Unity Games	 Amazon Sumerian	 Lens Studio	 Unreal Engine
JavaScript	C#	JavaScript	JavaScript	Visual Scripting C++

But what about NFTs?

I suggest you take CS 414 Blockchain Programming.

–What other classes should I take if I want in?

ART 297	Introduction to Digital Media Art
CS 240	Programming in C
CS 414	Blockchain Programming
CS 461	Computer Games Programming
CS 470	An Introduction to Artificial Intelligence
ENGIN211L	Digital Systems with Lab
MATH 260	Linear Algebra
PHYSICS 312	Mechanics
PSYCH 255	Perception

THANK YOU!
ANY QUESTIONS?

Feel free to send in any questions to
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