



Learn How Educators are Integrating Generative AI, Simulation, and Design into Their Curricula

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Barbara Mones, University of Washington, Paul G. Allen School of Computer Science & Engineering

Deepak Chetty, University of Texas at Austin, Radio-Television-Film, Moody College of Communication



Agenda

- Introduction to NVIDIA Edu team, Academic Programs, NVIDIA highlights
- Overview of Omniverse
- Omniverse Case Studies
- Universal Scene Description (USD) Ecosystem
- Teaching Kits, Ambassador Program and Certification, and the NVIDIA Student Network

Our Speakers



Professor Barbara Mones

Animation Research Labs, Director Reality Lab Studio
University of Washington
Paul G. Allen School of Computer Science & Engineering



Assistant Professor Deepak Chetty

Area Head for Virtual Production
and Assistant Professor of Practice,
University of Texas, Austin, Radio-Television-Film

Integrating Avatars at University of Washington

Why This Topic?

What opportunities do Educators and NVIDIA have to join forces and make a positive difference?

- Omniverse offers a revolutionary change for the educational community
- As educators we need to embrace these new opportunities
- New ways of working allow us to enhance our creativity and artistic expression – vitally important to us all – to enable new and unforeseen directions





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Why UW is Embarking on This Collaboration with NVIDIA?

How this might help other Educators

- The re-design of our curriculum and why this venture is important
- Why did we select Avatar Design as an area to pursue?
- What does portraiture have to do with Avatars?



What do we expect students will discover?

How this might help other Educators

- Specific areas of the production pipeline ripe for the Omniverse Platform
- Best practices with this radically new production pipeline



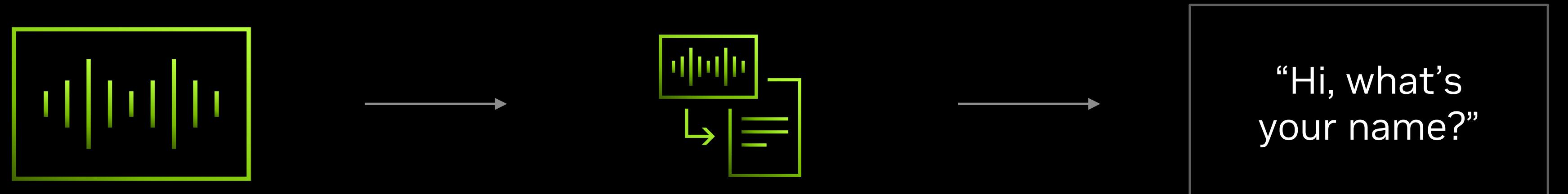
ANNOUNCING ACE PRODUCTION MICROSERVICES

Now Available

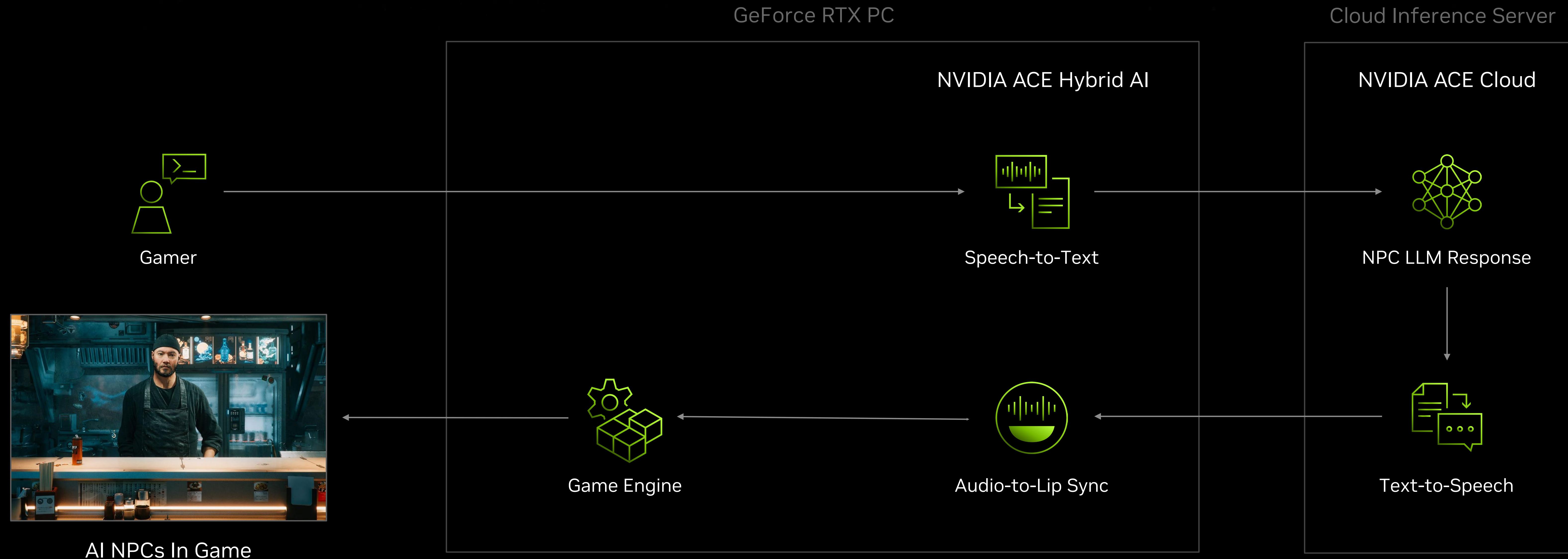
Audio2Face



Riva Automatic Speech Recognition



NVIDIA ACE – NON-PLAYABLE CHARACTERS





Integrating Generative AI, Simulation and Design at University of Texas, Austin's Radio-Television-Film Program

GenAi/Sim/Design om the Curriculum

Current Courses

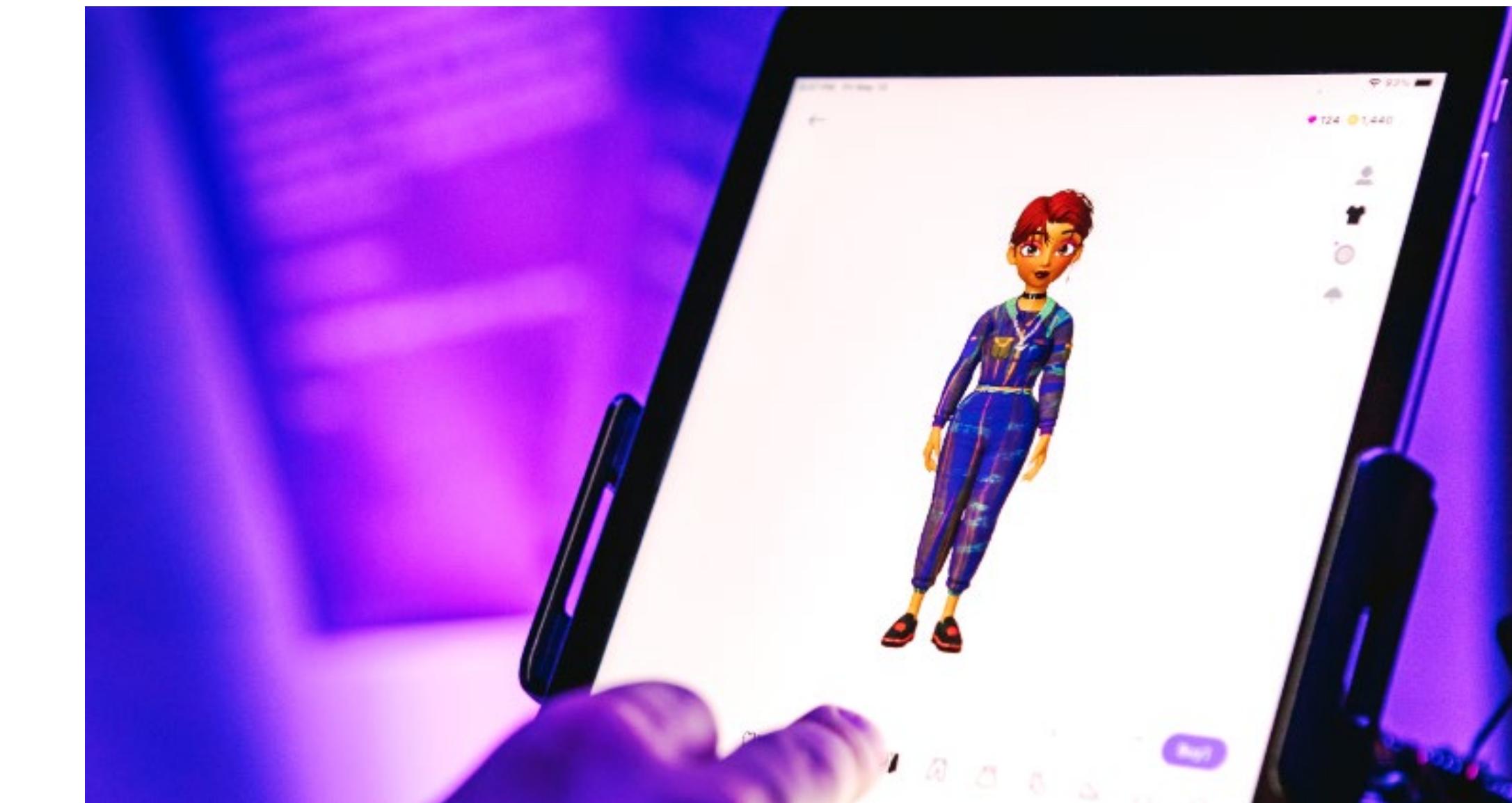
(UT) VFX for Storytelling



(UT) Texas Immersive



GenAI Short Film
Final Projects



AI for Creativity
Course

The Evolution of our Curriculum

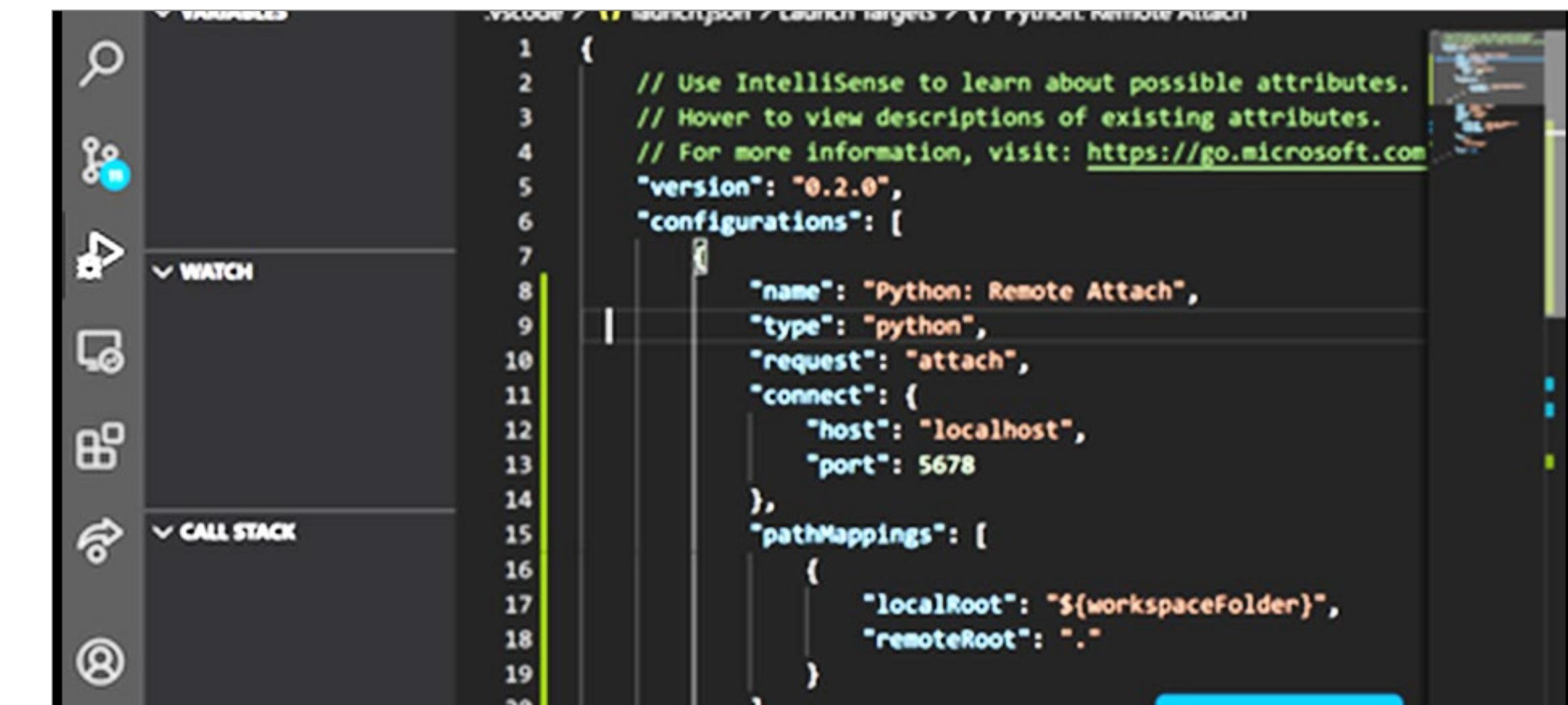
Some Examples in the last decade:



Film



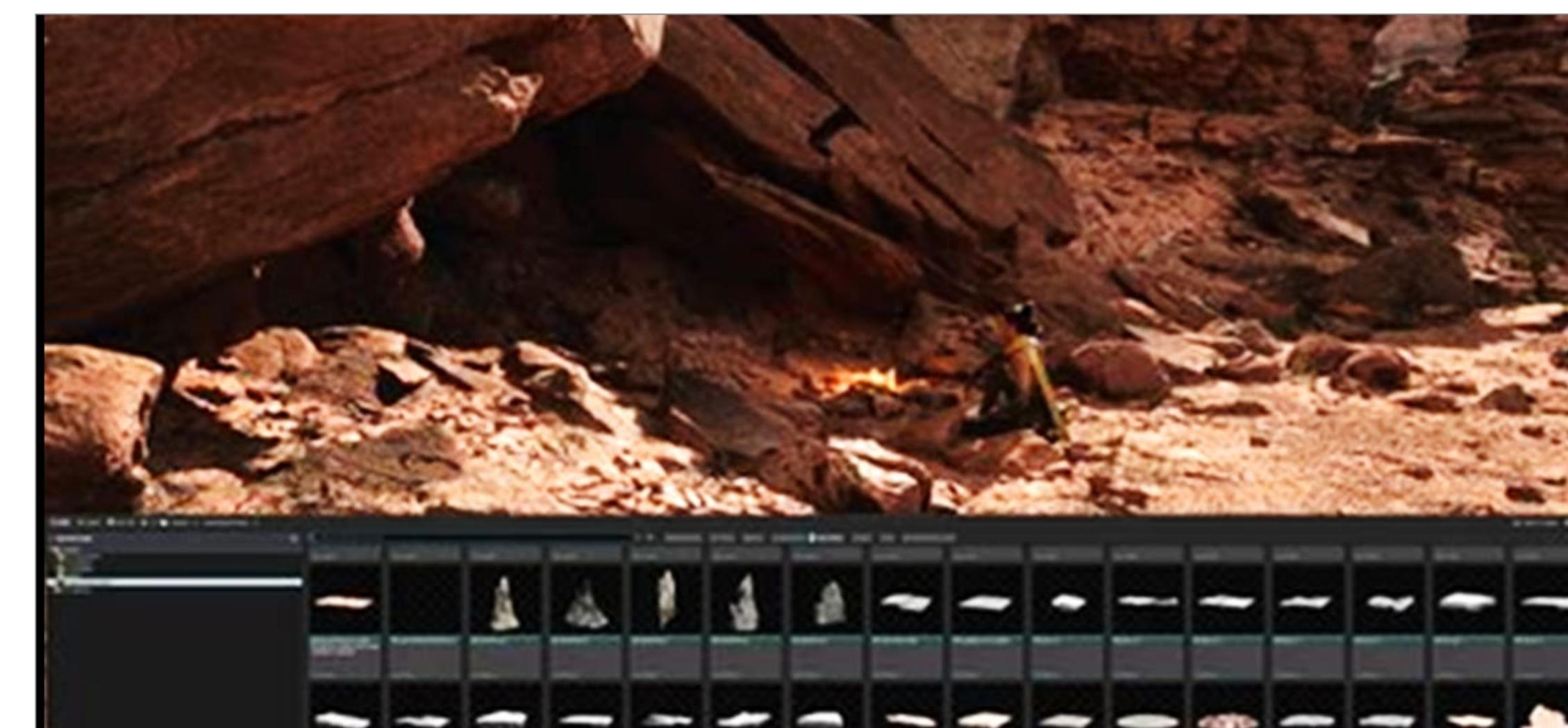
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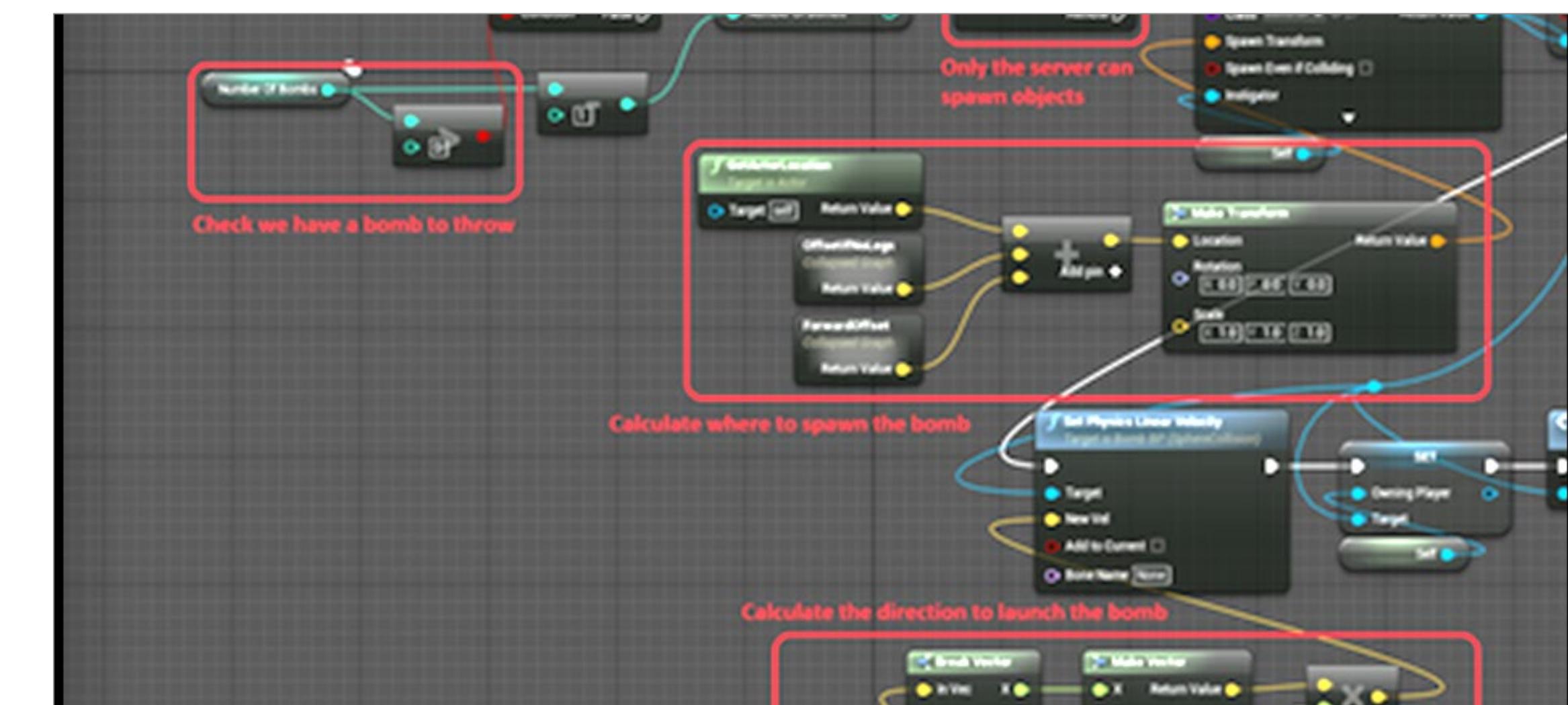
Syntax Based



Digital



Real-Time



Visual Scripting

GenAI/Sim/Design in the Curriculum

In Practice

The emerging significance of Generative AI, Simulation, and Design thinking in modern filmmaking and education.

- The group versus the individual - what are the goals of education

How these technologies are shaping the future of storytelling, production and visual effects.

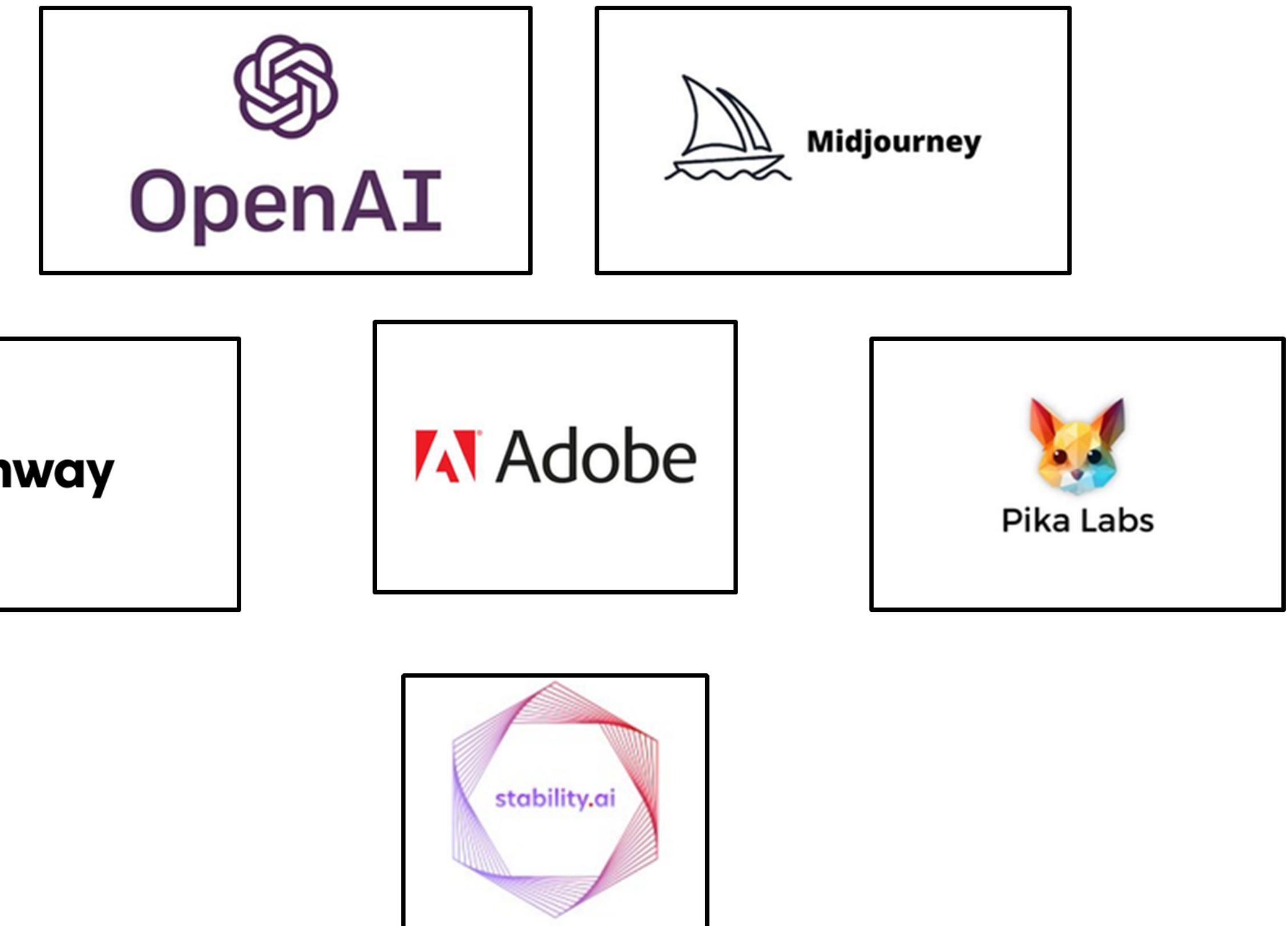
- Technology in the service of storytelling and artistic creation, not the other way around?



GenAI/Sim/Design in the Curriculum

In Practice

- Generative AI and its potential in scriptwriting, automated editing, VFX.
 - ChatGPT
 - Audio Syncing/Cut Detection
 - Adobe Suite/Game Engine/Nuke/Houdini integration
 - Workflows can be adapted into pre-existing pipelines
- GEN AI Services
- Workflows:
 - ComfyUI/Automatic1111
 - Stable Video Diffusion
 - AnimateDiff
 - AnimatedDiffex



GenAI/Sim/Design in the Curriculum

Synergizing Technology and Creativity

- At our institution technology always works to support storytelling
 - How do we best approach the usage of such tools given that objective?
 - How can we mitigate anxiety towards these tools and their potential to reshape entire industries?
- The benefits of an interdisciplinary approach in preparing students for their current and future involvement in the Media and Entertainment industry



images via UT Austin's RTF Program

GenAI/Sim/Design in the Curriculum

Outcomes and Expectations

How are these technologies shaping the future of storytelling, production, and visual effects at our institution?

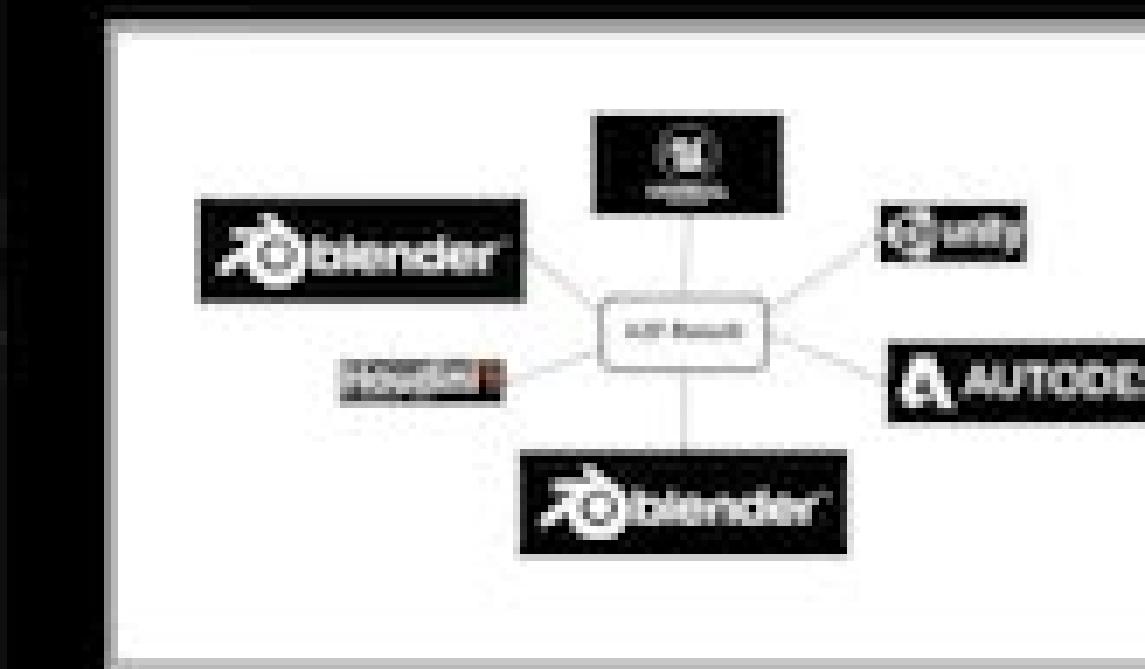
- **Desired student expectations**

- Conceptual Understanding
 - What is actually happening when I use these tools and workflows?
 - Traditional workflows + Emergent Workflows
- Conceptual Literacy
 - What is possible with these tools now?
 - What can be possible in the future?

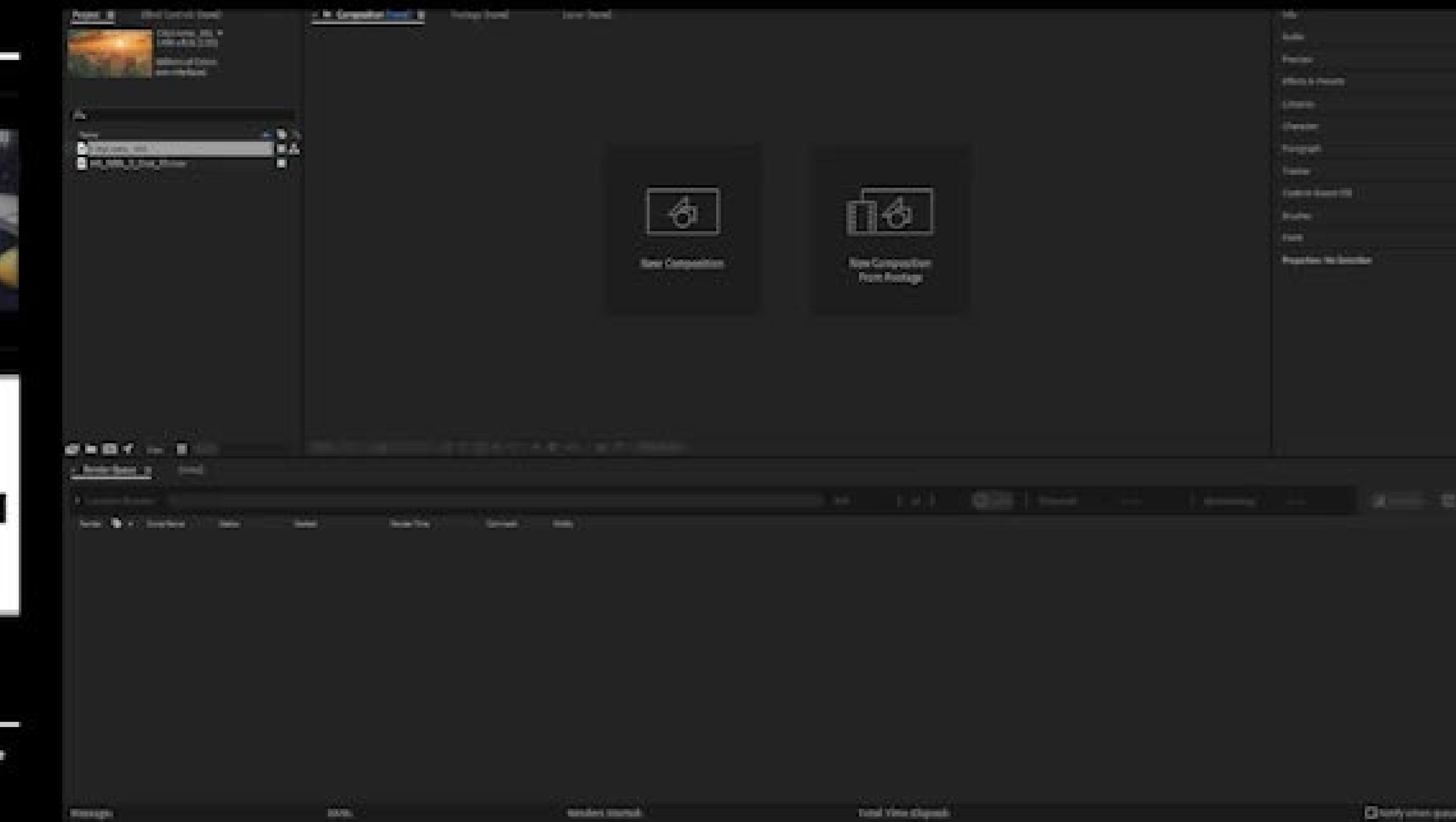
- **Specific Outcomes**

- Artistic/Individual
- Career/Commercial

Export from A2F into content creation software



All Enhanced Performance Visualization Using Autodesk



GenAI/Sim/Design in the Curriculum

Challenges and Ethical Considerations in Education

- Are we changing the definition of the “artist”?
 - Who gets to decide what “Art” is?
- Are there differences between using this tech for?:
 - Individual artistic expression?
 - Commercial adoption?
- How are we addressing potential challenges in adopting these technologies in art education (like resource allocation, skill adaptation, etc.)?
- What are the ethical considerations in AI-generated content and ensuring responsible use of technology in storytelling?
- Are we training future industry leaders who understand the impact now and in the future of these tools on both the individual artist and the industries they reside in?



via midjourney

GenAI/Sim/Design in the Curriculum

Takeaways and The Near Horizon

- Recognize the transformative impact of integrating Generative AI, Simulation, and Design in film education.
 - Is teaching these technological breakthroughs required?
- Inspire educators and institutions to embrace these technologies for nurturing the next generation of filmmakers.
 - Who are these educators?
- Motivate academics to investigate and integrate ongoing innovation, collaboration with technology

Ethics! Ethics! Ethics!

Tell us What we Are Missing



Questions ?

Upcoming Talks and Labs That You Won't Want to Miss

Thursday

"The Creative Source": Examining the Latent Human Space Between Music and AI
[S62912]

11:00 AM - 11:50 AM PDT, SJCC 211B (L2)

Priming Researchers and Students for AI and Accelerated Computing
Breakthroughs With Self-Sustaining Training Programs [S61961]

11:00 AM - 11:50 AM PDT, SJCC 210D (L2)

Advances in Ray Tracing Developer Tools [S62398]

11:00 AM - 11:50 AM PDT, SJCC 212A (L2)

DLI, Hands-on Training Lab

How to Build a Native OpenUSD XR Application [DLIT62084]

2:00 PM - 3:40 PM PDT, SJCC LL21C (LL)

NVIDIA Certified at GTC [DLIT62949]

2:00 PM - 3:40 PM PDT, SJCC LL21D (LL)

