



The Actor & Their Digi-Double: Hyper-Reality Design of LED Invisible Switch Illusions in Live Theatrical Spectacles

JIT 2026, Paris

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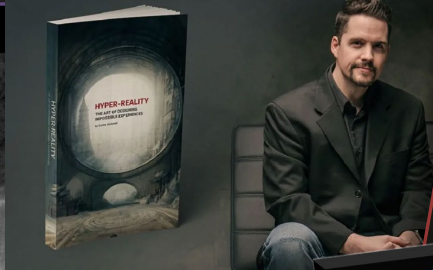
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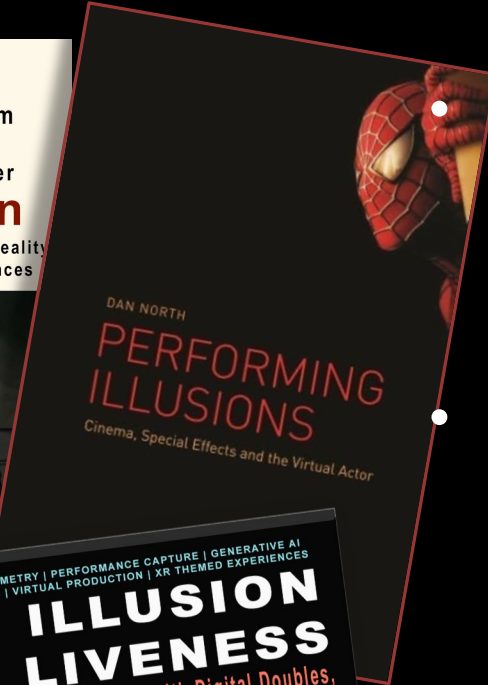
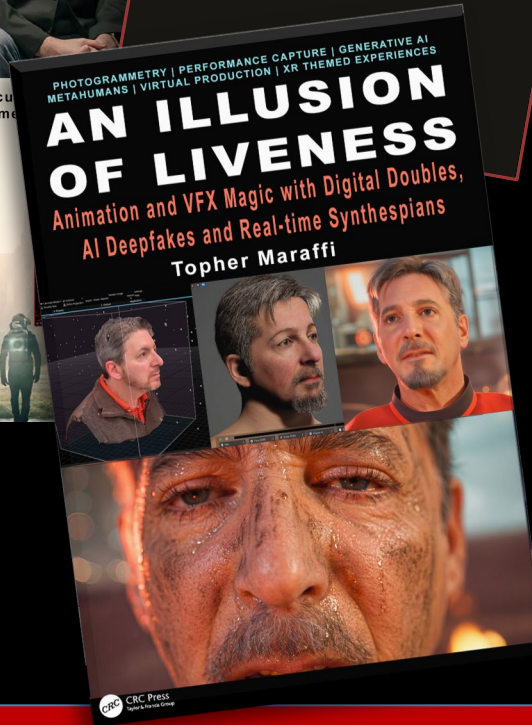
Research Approach: Digital Double Liveness as Illusionism



NC STATE UNIVERSITY
Thursday March 6th 12:00pm
By Zoom in Brooks 320
MADTech Presents Guest Speaker
Curtis Hickman
Founder of The VOID and Author of Hyper-Reality
The Art of Designing Impossible Experiences



VR magician Curtis Hickman discusses
and designing location-based immersive



- North's thesis that cinema VFX is based on illusionism, and synthesians are the ultimate trick.
- Hickman's Hyper-Reality design framework based on stage magic principles applied to XR design.
- Craig's Uber-Marionette concept to design virtual puppets as real-time playable instruments for actors.
- Virtual production volume functions as a magic theatre for creating impossible experiences.



Previous Work: Interaction Illusions with LED Walls



- Presented “Macbeth Metahuman” in JIT 2024.
- Livelink streaming in UE5 allows for real-time puppetry in the wall (SIGGRAPH 2025/2026).
- Controlling a hidden metahuman in Unreal, the actor is in two overlapping spatial dimensions.
- They can puppeteer the system by hitting triggers in the volume.



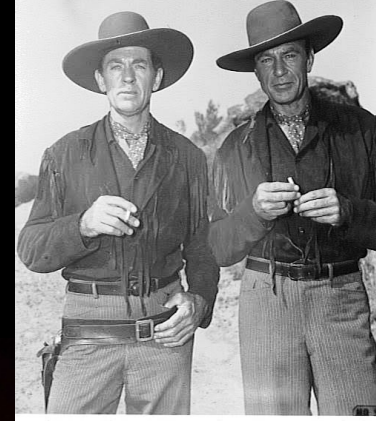
ACM SIGGRAPH Educator's Forum (2026) and Spatial Storytelling program (2025)

[Video Examples: https://youtu.be/OPRGrss1ur4](https://youtu.be/OPRGrss1ur4)

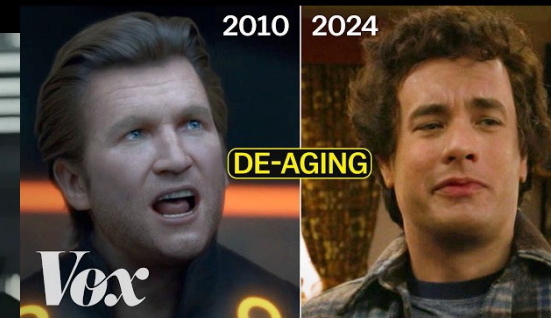
Evolution of the Double in Media



- Visible double or uncanny doppelganger in performance.
- Invisible stunt doubles in film.
- The first digital stunt double in Jurassic Park (1993).
- Digi-Doug Project (Doug Roble).
- CGI bringing back dead actors (Cushing, Fisher, etc).
- AI de-aging actors (Hamil, Bridges, Hanks, etc).



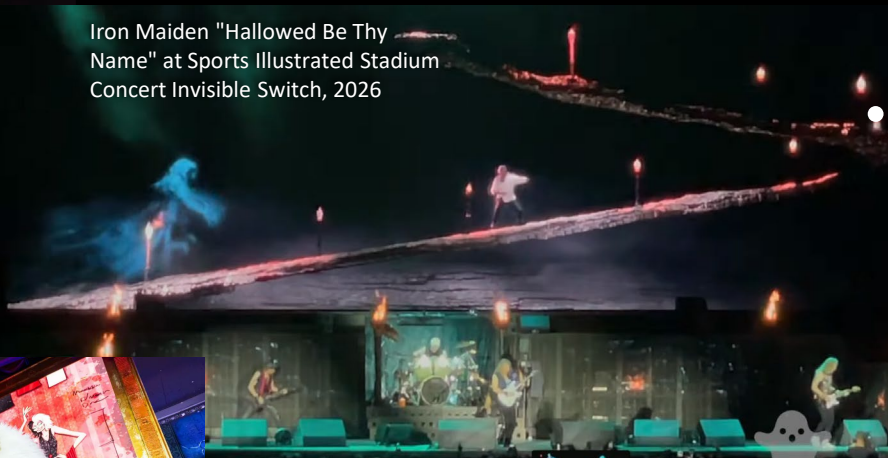
Jurassic Park
Ellie's face on stunt double using CGI



Invisible Switch Illusions in Live Shows



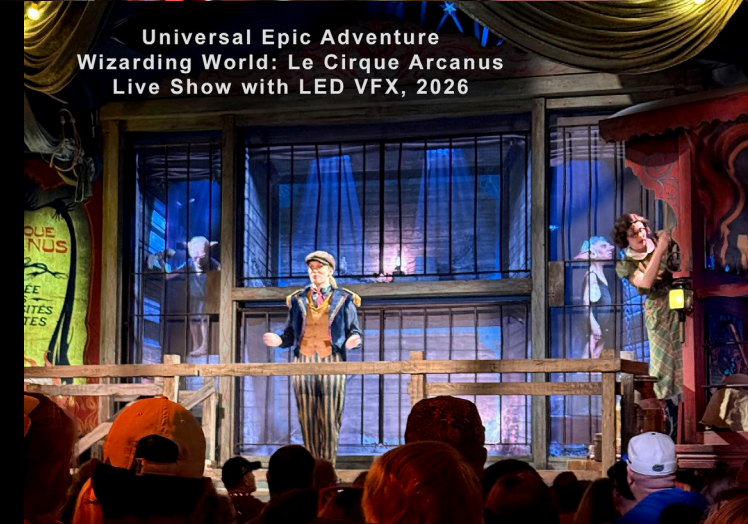
Iron Maiden "Hallowed Be Thy Name" at Sports Illustrated Stadium Concert Invisible Switch, 2026



Disney Hollywood Studios' Villains: Happily Ever After, 2025



Universal Epic Adventure WIZARDING WORLD: Le Cirque Arcanus Live Show with LED VFX, 2026



Universal Studios 2026

- Originally called the Texas or cowboy switch from mid-twentieth century Hollywood westerns using stunt doubles for action scenes.
- Used extensively in Universal's Bourne Stuntacular since 2020.
- Employed in the latest dark rides and immersive shows at Universal and Disney theme parks, and increasingly for live rock concerts.
- LED screens are used in all these.

Invisible Switch Projects in our Lab (Spring 2026)



- Invisible switch effects blur perceptual lines between the real and virtual, expanding spatial dimensions of visual storytelling in a live experience.
- Design draws from Hickman's hyper-reality (bigger space inside than outside), and from classic movie "magic" VFX using digital doubles.
- Future work: moveable screens in a volume for physical "masking" of actors during a switch.



Live Metahuman Switch VFX
Don Giovanni Opera Project
NCSU Virtual Production Lab, 2026





Testing Claire Golder's opera project with actor Li Chen, 2026



Topher "OZ" Digital Double, 2026



Universal Studios 2026



Thank You!

JIT 2026, Paris

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