

TECHNICAL EXCELLENCE

PROCEDURAL GENERATION FRAMEWORK

- 216 base identities expandable to millions of unique appearances
- Procedural accessory system with glasses, jewelry, and headwear
- Advanced clothing simulation
- Multiple BMI variations across various body types
- Procedurally generated interiors and object collisions

RENDERING CAPABILITIES

- Physics-based light interactions across visible and NIR spectrums
- Realistic shadowing and environmental adaptation
- Support for multiple camera simulations simultaneously
- Custom sensor options, including thermal, radar, and UWB
- Digital twins of scene elements and sensors

DATASET CREATION

- Synthesis of complex, pixel-perfect metadata (2D/3D)
- Full control over scene parameters
- Edge case generation for robust model training
- Occlusion simulation with various environmental factors
- Unparalleled variety, from people and vehicles in forested areas to in-cabin monitoring to rolling stock inspection
- Physics-informed rendering that reflects real-life logic



MEET OUR EXPERTS AT BOOTH #729

Our team combines expertise in computer vision, AI development, and industry-specific knowledge to help you understand how Omnihuman can benefit your applications.

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A PERSONALIZED SESSION
WITH OUR TEAM:



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Transform your computer vision applications
with SKY ENGINE AI's Omnihuman.



REDEFINING DATASET GENERATION FOR COMPUTER VISION

Visit us at SIGGRAPH 2025
August 12 - 14

BOOTH #729
VANCOUVER CONVENTION CENTRE
VANCOUVER, CANADA



BEYOND REALITY: THE FUNCTIONAL GRAPHICS ADVANTAGE

At SKY ENGINE AI, we've revolutionized simulation through our proprietary rendering engine at the heart of our Platform.

Built from the ground up to meet the demands of advanced computer vision applications, the Platform delivers unprecedented technical realism in every aspect of human and environment representation.

NATURAL MOVEMENT

- Precise gesture and motion simulation
- Head position adjustment for roll, yaw, and pitch
- Varied whole-body movements, e.g., sitting down, stretching, and swinging on a chair.
- Metadata on gaze vectors
- 2D and 3D keypoints of face and body

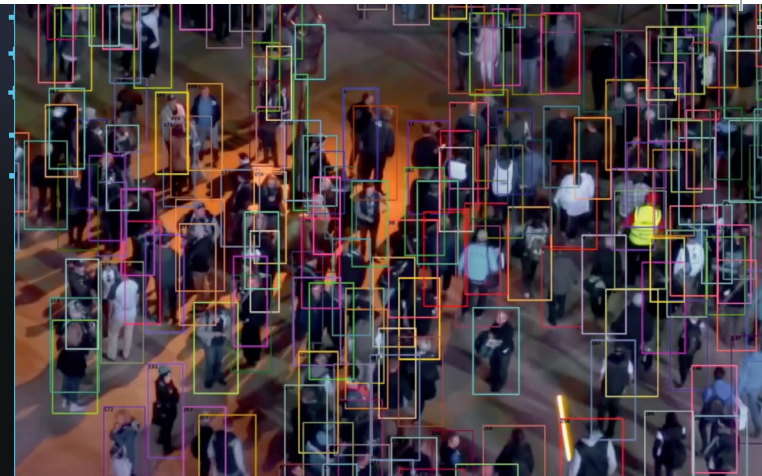
REALISTIC APPEARANCE

- Advanced procedural skin texturing using Substance technology
- Procedural aging simulation
- Diverse complexions
- Comprehensive ethnic representation
- High-fidelity eye rendering with iris detail
- Industry-leading subsurface scattering for translucent skin realism
- Natural movement of clothes, in sync with the character

TRANSFORMING INDUSTRIES THROUGH SYNTHETIC DATA



IN-CABIN MONITORING Solve computer vision tasks with precise occupant tracking, gesture control, and behavior analysis. Simulate emotions, drowsiness or rare scenarios in the cabin. Omnihuman enables robust development and testing of driver monitoring systems, occupant classification, and other features while supporting compliance with safety regulations.



SECURITY & DEFENSE Elevate threat detection, search and rescue operations, and situational awareness with realistic human simulation. Bypass data scarcity and avoid the limitations of real-world data. Our platform creates diverse training environments with variable lighting, occlusion, and environmental conditions to prepare systems for real-world deployment.



MANUFACTURING SAFETY Improve assembly line monitoring and worker safety with precise human detection in industrial environments. Our simulations help develop systems that track worker positioning, detect safety violations, and optimize ergonomics across manufacturing facilities.