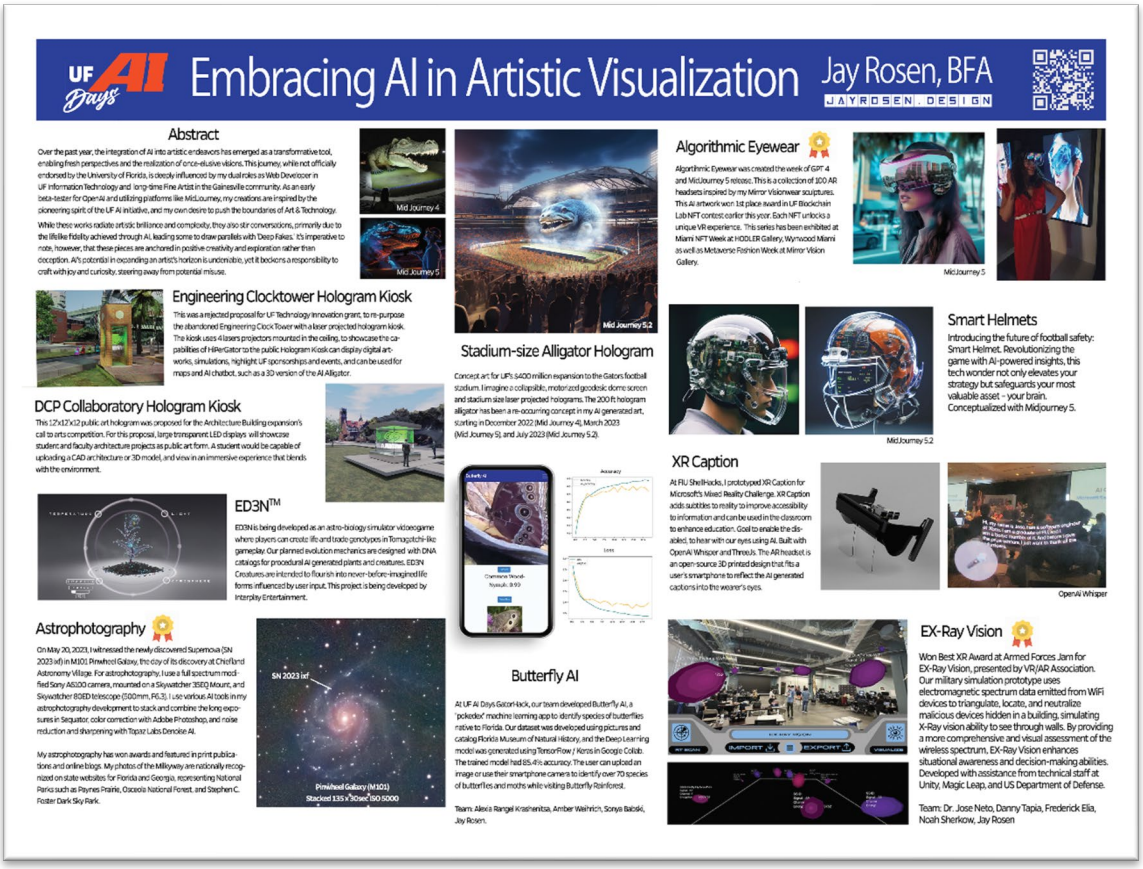
UF AI Days 2023 Science Poster

“Embracing AI in Artistic Visualization”

Jay Rosen, BFA



Abstract

Over the past year, the integration of AI into artistic endeavors has emerged as a transformative tool, enabling fresh perspectives and the realization of once-elusive visions. This journey, while not officially endorsed by the University of Florida, is deeply influenced by my dual roles as Web Developer in UF Information Technology and long-time Fine Artist in the Gainesville community. As an early beta-tester for OpenAI and utilizing platforms like MidJourney, my creations are inspired by the pioneering spirit of the UF AI initiative, and my own desire to push the boundaries of Art & Technology. While these works radiate artistic brilliance and complexity, they also stir conversations, primarily due to the lifelike fidelity achieved through AI, leading some to draw parallels with 'Deep Fakes.' It's imperative to note, however, that these pieces are anchored in positive creativity and exploration rather than deception. AI's potential in expanding an artist's horizon is undeniable, yet it beckons a responsibility to craft with joy and curiosity, steering away from potential misuse.

Engineering Clocktower Hologram Kiosk

This was a rejected proposal for UF Technology Innovation grant, to re-purpose the abandoned Engineering Clock Tower with a laser projected hologram kiosk. The kiosk uses 4 lasers projectors mounted in the ceiling, to showcase the capabilities of HiPerGator to the public Hologram Kiosk can display digital artworks, simulations, highlight UF sponsorships and events, and can be used for maps and AI chatbot, such as a 3D version of the AI Alligator.

DCP Collaboratory Hologram Kiosk

This 12'x12'x12 public art hologram was proposed for the Architecture Building expansion's call to arts competition. For this proposal, large transparent LED displays will showcase student and faculty architecture projects as public art form. A student would be capable of uploading a CAD architecture or 3D model, and view in an immersive experience that blends with the environment.

ED3N

ED3N is being developed as an astro-biology simulator video game where players can create life and trade genotypes in Tomagatchi-like gameplay. Our planned evolution mechanics are designed with DNA catalogs for procedural AI generated plants and creatures. ED3N Creatures are intended to flourish into never-before-imagined life forms influenced by user input. This project is being developed by Interplay Entertainment.

Astrophotography (award)

On May 20, 2023, I witnessed the newly discovered Supernova (SN 2023 ixf) in M101 Pinwheel Galaxy, the day of its discovery at Chiefland Astronomy Village. For astrophotography, I use a full spectrum modified Sony A6100 camera, mounted on a Skywatcher 35EQ Mount, and Skywatcher 80ED telescope (500mm, F6.3). I use various AI tools in my astrophotography development to stack and combine the long exposures in Sequator, color correction with Adobe Photoshop, and noise reduction and sharpening with Topaz Labs Denoise AI. My astrophotography has won awards and featured in print publications and online blogs. My photos of the Milkyway are nationally recognized on state websites for Florida and Georgia, representing National Parks such as Paynes Prairie, Osceola National Forest, and Stephen C. Foster Dark Sky Park.

Stadium-size Alligator Hologram

Concept art for UF's $400 million expansion to the Gators football stadium. I imagine a collapsible, motorized geodesic dome screen and stadium size laser projected holograms. The 200 ft hologram alligator has been a re-occurring concept in my AI generated art, starting in December 2022 (Mid Journey 4), March 2023 (Mid Journey 5), and July 2023 (Mid Journey 5.2).

Butterfly AI

At UF AI Days GatorHack, our team developed Butterfly AI, a "pokedex" machine learning app to identify species of butterflies native to Florida. Our dataset was developed using pictures and catalog Florida Museum of Natural History, and the Deep Learning model was generated using TensorFlow / Keras in Google Collab. The trained model had 85.4% accuracy. The user can upload an image or use their smartphone camera to identify over 70 species of butterflies and moths while visiting Butterfly Rainforest. Team: Alexia Rangel Krashenitsa, Amber Weihrich, Sonya Babski, Jay Rosen.

Algorithmic Eyewear (award)

Algortihmic Eyewear was created the week of GPT 4 and MidJourney 5 release. This is a collection of 100 AR headsets inspired by my Mirror Visionwear sculptures. This AI artwork won 1st place award in UF Blockchain Lab NFT contest earlier this year. Each NFT unlocks a unique VR experience. This series has been exhibited at Miami NFT Week at HODLER Gallery, Wynwood Miami as well as Metaverse Fashion Week at Mirror Vision Gallery.

Smart Helmets

Introducing the future of football safety: Smart Helmet. Revolutionizing the game with AI-powered insights, this tech wonder not only elevates your strategy but safeguards your most valuable asset – your brain. Conceptualized with Midjourney 5.

XR Caption

At FIU ShellHacks, I prototyped XR Caption for Microsoft's Mixed Reality Challenge. XR Caption adds subtitles to reality to improve accessibility to information and can be used in the classroom to enhance education. Goal to enable the disabled, to hear with our eyes using AI. Built with OpenAI Whisper and ThreeJs. The AR headset is an open-source 3D printed design that fits a user's smartphone to reflect the AI generated captions into the wearer's eyes.

Ex-Ray Vision (award)

Won Best XR Award at Armed Forces Jam for EX-Ray Vision, presented by VR/AR Association. Our military simulation prototype uses electromagnetic spectrum data emitted from WiFi devices to triangulate, locate, and neutralize malicious devices hidden in a building, simulating X-Ray vision ability to see through walls. By providing a more comprehensive and visual assessment of the wireless spectrum, EX-Ray Vision enhances situational awareness and decision-making abilities. Developed with assistance from technical staff at Unity, Magic Leap, and US Department of Defense. Team: Dr. Jose Neto, Danny Tapia, Frederick Elia, Noah Sherkow, Jay Rosen