

Blog Title: Nuke CopyCat – Ushering AI into the World of Compositing

As the visual effects industry accelerates toward AI-assisted workflows, Foundry's **CopyCat** node in **Nuke** marks a major milestone in bridging manual precision with machine learning. Designed to **train and apply neural networks directly within the Nuke environment**, CopyCat empowers artists to automate repetitive, frame-by-frame tasks—without writing a single line of code.

Let's explore what CopyCat is, how it works, and why it's a crucial step forward as we adopt AI into professional compositing pipelines.

What is CopyCat in Nuke?

CopyCat is a node introduced in Nuke that allows artists to **train a custom machine learning model** using **before-and-after image pairs**. Once trained, the model can then replicate the learned effect across a sequence of images.

Think of it as a **personal AI assistant**—one that learns your exact cleanup, roto, or stylization technique and applies it consistently across frames.

How Does It Work?

The workflow is simple and artist-friendly:

- 1. Input Reference Frames**
You provide a handful of frame pairs: your original input (e.g., a plate with markers or noise) and the desired result (e.g., a cleaned version or stylized output).
- 2. Train the Model**
Using CopyCat, you train a neural network inside Nuke. The training typically takes place on a GPU and can range from a few minutes to an hour, depending on complexity.
- 3. Apply the Model with Inference Node**
Once trained, the model is exported and used through the **Inference** node to apply the learned effect on new frames.

It's powerful, fast, and—most importantly—**artist-controlled**.

Why CopyCat is a Game-Changer

As the VFX industry increasingly integrates AI technologies, CopyCat delivers several clear advantages:

1. Automation Without Sacrificing Quality

Traditional methods like manual paintouts, rotoscope work, or stylized looks can take hours. CopyCat replicates these frame by frame while retaining the artist's touch—achieving **consistency, speed, and fidelity**.

2. Artist-Friendly AI

Unlike complex AI workflows requiring Python, PyTorch, or external training platforms, CopyCat operates entirely within the Nuke environment. No coding. No leaving the timeline.

3. Custom Training for Specific Shots

Every shot is different. With CopyCat, you're not relying on a generic AI. You're creating a **bespoke model** that understands *your* footage and *your* technique.

4. Supports AI-Enhanced Creative Decisions

CopyCat is more than automation. It's about **extending creative possibilities**. Stylization, texture synthesis, de-aging, morphing—it can all be trained using your vision.

5. Saves Time on Repetitive Tasks

Artists no longer need to repeat the same clone or paint work across 100 frames. With a properly trained model, CopyCat can do it all—in **seconds**.

Use Cases for CopyCat in Production

- **Marker Removal**
- **Beauty Work (Skin Cleanup)**
- **Stylized Effects (Painterly, Sketch, Toon Looks)**
- **De-Noising**
- **Element Isolation**

- **Depth or Matte Extraction**
- **Tattoo or Scar Removal**
- **Frame Interpolation or Texture Replication**

It's particularly useful in **TV/OTT shows** or **commercials**, where high volume meets tight deadlines.

CopyCat vs Traditional Nodes

Task	Traditional Workflow	CopyCat Workflow
Marker Removal	Paint per frame	Train once → Apply across sequence
Roto Cleanup	Manual, frame-by-frame	CopyCat learns shapes + motion
Stylization	Complex color corrections	Learned from sample frames
Beauty Work	Paint, blur, soften	Learns skin tones & textures

CopyCat and the Future of AI in VFX

What makes CopyCat special is its **hybrid nature**. It's not a black-box AI tool—it's **artist-driven AI**.

As the VFX pipeline continues to embrace AI technologies—from Runway ML to Sora—tools like CopyCat set the foundation. They show that AI isn't here to replace artists—it's here to **amplify their creativity and efficiency**.

Final Thoughts

CopyCat in Nuke is more than just a feature—it's a philosophy shift. It invites artists to train their own models, customize outputs, and **embrace AI as a tool rather than a threat**.

In an industry where time, quality, and creativity are everything, CopyCat stands at the intersection of all three. As we move forward into the AI-integrated future of VFX, it's innovations like this that will define the next era of compositing.

Stay tuned for a deep-dive tutorial on how to train your first CopyCat model.

Until then—keep creating, keep exploring.

Vishal Dharsha

Creative Head, Perfekta FX

Would you like a version of this with visuals and a step-by-step training example using CopyCat?

You said:

Make it more, human written

ChatGPT said:

Here's a more natural, **human-written** version of your blog while keeping it structured and insightful, like something you'd see from an experienced artist casually sharing a breakthrough:

Blog Title: CopyCat in Nuke – Letting AI Learn *Your* Way of Compositing

Hey everyone,

Lately, I've been spending a lot of time with **CopyCat** in Nuke—and honestly, it's one of those tools that really made me step back and say, "*This changes everything.*"

As we all know, the visual effects industry is slowly (or maybe not-so-slowly) stepping into the world of AI. From auto-roto tools to text-to-video generators, there's a wave coming. But what makes CopyCat stand out is how it brings AI **into our control**—and lets it learn the *way we work*, frame by frame.

What Exactly is CopyCat?

CopyCat is a node inside Nuke that lets you train a machine learning model using just a few before-and-after image pairs. So, if you clean up some frames manually (say removing trackers, skin cleanup, or stylizing a look), CopyCat studies what you've done—and then applies the same logic to the rest of your sequence.

It's like teaching a junior artist who never sleeps and never messes up your alpha channels.

How It Works (Without the Jargon)

1. You give it some training data. That's just a few pairs of *"this is what the shot looked like"* and *"this is what I want it to look like."*
2. You hit train. The model learns your process—right inside Nuke.
3. You use the **Inference node** to apply it to the rest of the shot. Boom. Done.

That's it. No Python. No exporting to external tools. All within your timeline.

Why It's a Big Deal

Now here's why I'm actually excited:

✓ It saves a *lot* of time

Let's say you have to paint out a tattoo on a moving character. Normally you're stuck doing it frame by frame, with a SmartVector pass and lots of cleanup. With CopyCat? Train it on a few clean frames, and it figures out the rest.

✓ It respects your look

Unlike some "one-click" AI tools that give unpredictable results, CopyCat literally learns from your own manual work. So the final look still feels like **your** comp.

✓ It's built for *compositors*

You're not asked to be a machine learning engineer. You just work the way you always do, but smarter. Nuke takes care of the heavy lifting.

✓ It's perfect for tricky, repetitive tasks

From beauty work and stylized comps to cleanup and roto refinements—it's a dream when you have dozens of similar frames to process.

Where I Use It Most

Personally, I've used CopyCat for:

- **Marker/rig removal**
- **Skin smoothing**
- **Tattoo replacement**
- **Stylized render passes**
- **Subtle distortion effects**

And I'm constantly surprised at how good it gets with just 5–10 training frames.

CopyCat vs. Traditional Workflows

Let's say you're doing beauty cleanup on a face. Traditionally, you'd paint or track patches over it manually. With CopyCat, you do it on a few frames, then the model picks it up from there.

Or maybe you're doing a surreal stylized grade—something with halftones or posterization. Instead of manually applying the look across hundreds of frames, train it on a few, and let CopyCat take over.

It feels like cheating—but in the best way possible.

AI in VFX Isn't the Future. It's Now.

I think what CopyCat shows us is that AI isn't just about fully automatic results. It's about **collaboration** between the artist and the machine. We set the look, we define the logic—and the AI just helps carry it forward faster and more consistently than we ever could.

It's not about replacing artists. It's about **amplifying our abilities**.

Final Thoughts

To me, CopyCat is one of those tools that makes Nuke feel like it's stepping into a new era. It lets us keep the creative control while offloading the grunt work. And that's really what good AI should be about.

Whether you're a senior compositor or just starting out—this is a tool worth exploring. I'll definitely do a follow-up post soon with some real-world examples and tricks I've picked up while using it.

Till then, give it a shot. You might just get addicted like I did.

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Vishal Dharsha

Creative Head, Perfekta FX