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## Artificial Intelligence - Is it valuable?

Artificial Intelligence is all the rage at this time. There are a whole collection of applications arising where "AI" can be used for doing useful things - they say. Well - that is an offer I can't refuse without a little exposure to the tool. What is the catch?

So - I decided to explore the usefulness of this developing technology to see what are it's limits? The next few pages - will reveal some details about my journey into this mysterious and intriguing set of tools which is becoming nearly "mainstream."

So - consider the next few pages a study of the capabilities of a few AI engines which may just allow us to test the usefulness of AI in the form of a technical case study.

I am going to demonstrate the capabilities of AI to respond to my wishes for graphically representing a concept. Follow a few pages and judge for yourself if this toolset is somehow worthy of all the hype.

First off - the ground rules.... I will leave some of the realization of how much AI was used - for the reader to realize for themselves.

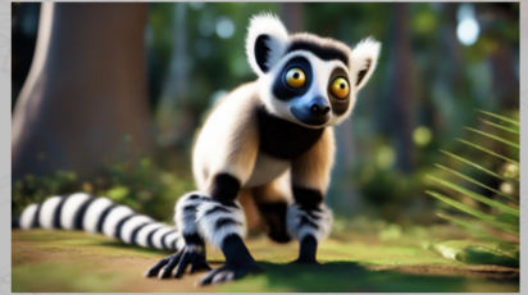
You can begin by looking at the photos to the left and ask which ones are photos and which are computer generated. Can you tell for sure?

Take it away Roxie! What kind of AI adventure can you share with us?

## Photo? or AI?



Lemur, Photo Credit: Boris Edelmann, Canva Pro Stock



"Lemur in the Wild", Photo Credit: AI assisted using DALL-E engine



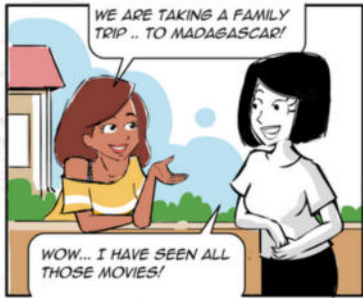
"Lemur in the Wild", Photo Credit: AI assisted using Ideogram



Welcome to Roxie's Corner - AI Edition. In the Summer Journal - you will get a special treat - the Vegan Family has lots of photos from our AI visit to Madagascar to show!

If you have been following the Vegan Family Comic Strip - you would know that these pictures were imminent!

## The Vegan Family



COMAN PRODUCTION 2024/ ILLUSTRATOR : SHARAD KUMAR



COMAN PRODUCTION 2024/ ILLUSTRATOR : SHARAD KUMAR

In the next few pages - you will get a look at some real information about Madagascar. We will also analyze along the way whether Artificial Intelligence was of any use in this story telling exercise.





# TECHNOLOGY SPOTLIGHT: ARTIFICIAL INTELLIGENCE



**Lisa Vegan - AI Edition**

Photo Credit: AI assisted using ideogram

## Case Study in training a Fixed Model of Lisa Vegan

This is the Vegan Family daughter, Lisa, after some multiple attempts to get her look right using the ideogram AI engine ... this is actually just about correct according to the original mental vision. It is that same vision that is translated when an illustrator begins to work his craft. In this case the creator is using a digital tool to realize the vision. A rough estimation of time to get to this 3 dimensional look as desired and to get a suitable pose and attire was maybe 15 minutes. With practice - this kind of image can be produced within 5 minutes - once you are good at defining your characters. However, the real Art and science is in making a character that is reproducible. That requires some practicing - and most likely also a subscription so that you can save your settings will be needed.



**Lisa Vegan - Analog Edition**

Photo Credit: Coman

However, even a static character can be achieved for free if discipline is used in the defining of the construct variables. Is this kind of graphical representation useful only for illustration of comic characters?



Photo Credit: AI assisted using ideogram

## Chat GPT Request for Guidance

What about the text value of AI? Let us turn for a moment to Chat GPT and ask a relevant question: **"What are the most endangered Lemurs in Madagascar?"**

And Chat GPT gives back: "Madagascar is home to many species of lemurs, and unfortunately, **a significant number of them are endangered**. Some of the most critically endangered lemurs include:"

These are just a few examples, but unfortunately, many other lemur species in Madagascar are also facing threats to their survival. Conservation efforts are crucial to protect these unique primates and their habitats.

- **Greater Bamboo Lemur** (*Prolemur simus*): This lemur is one of the rarest primates in the world and is **critically endangered** due to habitat destruction and fragmentation, as well as hunting.
- **Northern Sportive Lemur** (*Lepilemur septentrionalis*): This small nocturnal lemur is also **critically endangered** due to habitat loss and hunting.
- **Saha Forest Lemur** (*Lepilemur sahamalazensis*): This species was only recently discovered, and it's already listed as **critically endangered** due to habitat loss and fragmentation.
- **Madame Berthe's Mouse Lemur** (*Microcebus berthae*): The smallest primate in the world, it's **critically endangered** due to habitat destruction and fragmentation.
- **Perrier's Sifaka** (*Propithecus perrieri*): This sifaka species is **critically endangered** primarily due to habitat loss and hunting.



## Photo



Bamboo Lemur, Photo Credit: Canva Pro Stock

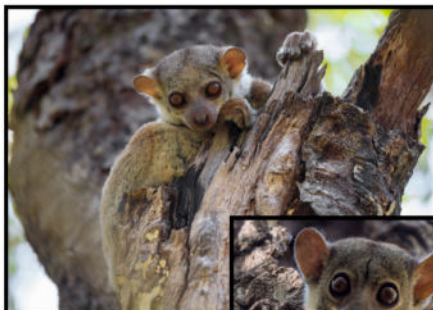


Photo Credit: Canva Pro Stock

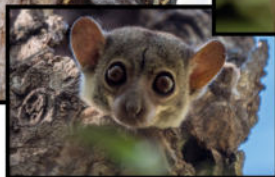
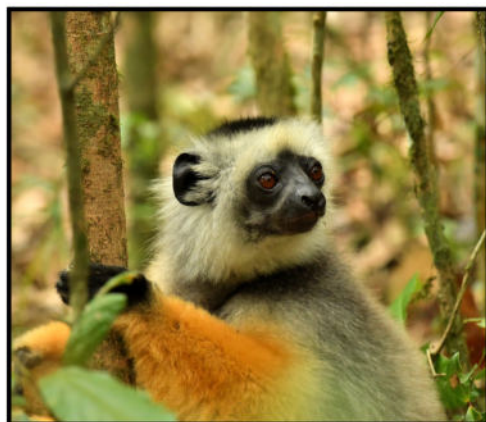


Photo Credit: Canva Pro Stock



Sifaka, Photo Credit: Canva Pro Stock

## vs: AI Simulation



Photo Credit: AI assisted using OpenArt

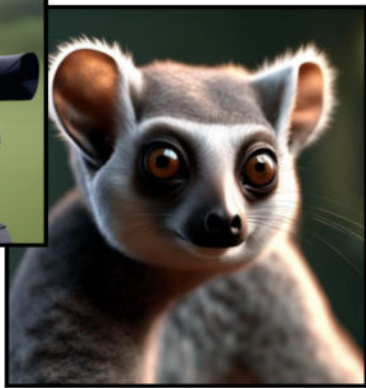


Photo Credit: AI assisted using DALL-E

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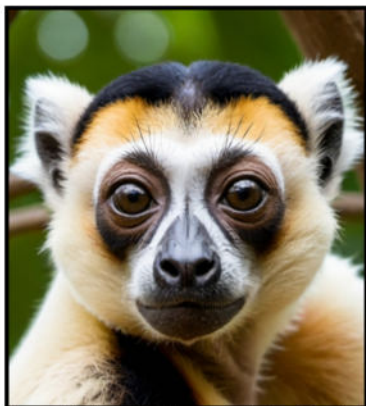


Photo Credit: AI assisted using OpenArt





# TECHNOLOGY SPOTLIGHT: ARTIFICIAL INTELLIGENCE

## Further Case Study in training a "Fixed Model" - Testing of Ty Burrell as Christian Vegan

It is possible to maintain a fixed model even across AI engines. How is that possible? The most commonly used tactic is to base your model (and the corresponding recipe or "prompt") on as many photos of some individual as possible. And, in the public databases are many many photos of celebrity actors and actresses. Thus - these are often used as a starting point for creating a stable reproducible Model - even across platforms. Here you see 4 representations of the same Celebrity, produced by several engines with comparable prompts. These may look like photos of your favorite actor - but they are not. They are AI representations of varying graphical quality and style. But do you see the consistent thread based on the "trained model" in the background?



AI Photo Credit:  
comicsmaker

AI Photo Credit:  
comicsmaker

AI Photo Credit:  
aicomicfactory

AI Photo Credit:  
openart.ai

## Are there useful Engineering Applications?

One can see that where a story is to be told - the ability of AI to carry a visual character through various permutations at the behest of the "prompt" - is definitely compelling - even if models show up with a third arm occasionally. Those failed simulations need to be recycled or ignored. In between are found the successful simulations which may prove useful for an author or maybe even a designer. How far can the usefulness be extended?

One can also see a hint of promise in terms of the usefulness of this kind of technology for automating layout of planning documents or in simulating possible build scenarios - IF the AI can be "trained" to understand the relevant terminology (analog to the character training which is already fairly advanced).

How far away from giving text inputs that lead to a rough draft of a site Map? or a rough draft of a foundation for instance?



Simulation of a Medium Scaled  
Biological Filter System,

AI Photo Credit: ideogram





### AI Prompt to represent the Garden of Eden

"Constructed wetlands with fruit trees growing in the midst, birds flying about. The water is pure and flowing."

Thus, one can see that having an AI may allow one to share the imagination first in words, that then flows into a graphical image - which the computer can then fit into a recognizable graphical image for sharing with others.

This is potentially a valuable tool. However, there are limitations.

### Some encountered AI limitations:

1. When it comes to trying to prompt for multiple characters, the AI loses its ability to deliver a predictable result. This means there is much growth and quality potential for improvements in the ability of the AI for managing multiple trained or fixed models. This may be addressed by subscribing to advanced pay services. The extent of this test has not crossed that financial threshold just yet.
2. Describing or "prompting" around technical design topics requires more specialized algorithms than those found so far. It is not very easy to prompt for technical drawings in the engines that are available (for free) today online.



**3. Visualization is qualitative.** Where Fantasy is desired - the results are acceptable. However, where technical accuracy is needed - there are definite shortcomings of the tested AI engines. They proved to deliver results often which in comparison to photo images of the desired results - failed to meet the threshold of plausibility. That limits greatly our ability to use freely available AI tools today for reliable simulation of endangered species, for instance. The AI representations shown earlier in this article of endangered Lemurs are a great display of the inaccuracy which can be expected when relying on AI as a source of species visualization.

**The Artificial Intelligence does not have a plausibility Meter that is reliable.**

**4. The largest problem encountered is that the model can only be as intelligent as the database of phrases that can be linked to concepts. There is a strong disconnect between the capability of the AI to know how many tails or hands belong in a simulation. There are many instances of extra fingers, or of extra hands even showing up in simulations. We must chalk this up to a lack of maturity in the learning model that is presently in use. Without doubt - the AI must be programmed to learn to be better over time right?**





### Biodiversity of Madagascar

Let us use some AI to guide some remote photo-journalism adventure.

#### Chat GPT on Chameleons:

Some notable chameleon species endemic to Madagascar include:

- Panther Chameleon
- Parson's Chameleon
- Nosy Be Pygmy Chameleon
- Labord's Chameleon (
- Antsingy Leaf Chameleon

These are just a few examples, but Madagascar's chameleon diversity is vast, with many species found nowhere else in the world.

There are around 160 species of chameleons in the world, belonging to the family Chamaeleonidae. These fascinating reptiles are known for their ability to change color, their unique eyes that can move independently, and their long, sticky tongues used to catch prey. They're mainly found in Africa and Madagascar, with a few species also found in parts of southern Europe, Asia, and the Middle East.

Madagascar is home to a significant number of chameleon species, and unfortunately, many of them are threatened or endangered due to habitat loss, deforestation, and illegal pet trade. Exact numbers can vary due to ongoing research and changes in conservation status, but a considerable portion of Madagascar's chameleon species are listed as endangered or vulnerable by organizations like the International Union for Conservation of Nature (IUCN). It's crucial to continue efforts to conserve these unique species and their habitats to prevent further decline.



Chameleon *Calytratus* (Panther Chameleon)  
Photo Credit: Canva Pro Stock



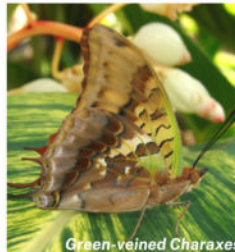
Chameleon on the Island of Nosy Be  
Photo Credit: Canva Pro Stock



Madagascan Sunset Moth  
Photo Credit: Canva Pro Stock



Madagascan Swallowtail  
Photo Credit: Canva Pro Stock



Green-veined Charaxes  
Photo Credit: Florida Museum

#### Chat GPT on Butterflies of Madagascar

Madagascar is home to a diverse array of butterfly species, including many that are endemic to the island, meaning they are found nowhere else on Earth. Some of these special butterflies include:

- **Madagascan Sunset Moth** : This is one of the most famous and beautiful butterflies from Madagascar, known for its striking iridescent colors.
- **Madagascan Swallowtail** : Another stunning butterfly species native to Madagascar, known for its large size and intricate wing patterns.
- **Madagascan Green-veined Charaxes**: This butterfly species is characterized by its green wings with white veins and **is found exclusively in Madagascar**.
- **Madagascan Emperor** : A large and impressive butterfly species with brown wings adorned with blue and red markings.
- **Madagascan White Peacock** : A species of butterfly belonging to the family Nymphalidae, known for its white wings with black and orange markings.

These are just a few examples, but Madagascar's butterfly fauna is incredibly diverse and includes many species with unique adaptations and beautiful appearances.



### **Our Assessment will not be complete without reviewing the ability of AI to represent Trees!**

Surely AI has a great grip on how to represent endangered tree species right?



*Baobabs of Morombe, Eastern Madagascar*  
Photo Credit: Canva Pro Stock



*Baobabs of Eastern Madagascar*  
AI Photo Credit: ideogram

### **What other plant Species are native to Madagascar?**

Madagascar boasts a rich diversity of orchid species, many of which are endemic to the island. These orchids come in various shapes, sizes, and colors, and they play an essential role in Madagascar's ecosystems.



*White Orchid Flower in the Madagascar Rainforest*  
Photo Credit: Canva Pro Stock



*Vanilla Orchid Flower*  
Photo Credit: Canva Pro Stock

### **Artificial Intelligence?**

Like every other digital tool available to us today - the "Artificial Intelligence" which is getting so much hype - is pretty cool! but it has limitations. No - it is not ready to take over the world. It is a tool for visualization for now.



Roxanne Vegan







THE **Vegan** FAMILY *AI*  
*Vacation Scrapbook*



*Enjoying a little AI shade in a Baobab*



*AI Roxie doing her Photography Gig!  
Who do you think  
is the celebrity behind this one?*



*Anticipating the AI Adventure ahead!*



*AI Christian  
enjoying some Madagascar sun!*



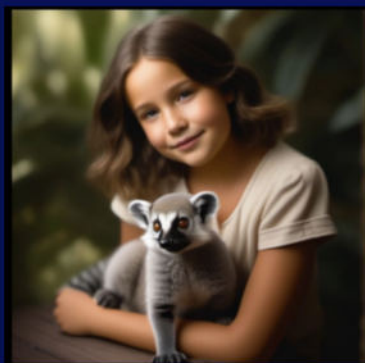
*Buddy... marvelling  
at the AI Fireworks.*



*"The AI Lemur Whisperer"*



*AI Kenny should have NOT fed that one stray dog!*



*Lisa Vegan cuddling an AI Lemur.*

# *Our Working Madagascar Safari! 2024*



*How the AI trouble started...  
How SHALL we ignore all those poor stray dogs on the street?*



*AI Lisa and Kenny ready for a Safari!*