

KI und Hochschulen: Rollen und Akteure


HEM Impuls

Sarah Frederickx, MA, Digital Innovation, HfH

18. März 2024

100 | Bildung
Jahre | für Alle
1924–2024

HfH



KI und Hochschulen: Rollen und Akteure

Transformierte Akteure und gewandelte Aufgaben: Hochschulorganisation mit KI

Higher Ed, Players and a bit about AI

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About me

- Originally from Belgium
- Most loved language: Swiss German
- Programmed a robot arm in 1992 in Kantonsschule Baden (Typus C)
- High school teacher diploma (MA French & English)
- Teacher ESL
- Train the trainer in ICT (2006), Training Manager (2008)
- Educational Developer
- Education Specialist (since 2012 in HigherEd)



Sarah Frédérickx

Agenda

1. Teaser
2. Players in Higher Ed
 - Player Student
 - Player Lecturer
 - All the Players
3. Big Topics
4. Q&A

Teaser: 1st Paragraph

Computer Künstliche Intelligenz revolutioniert das Hochschulwesen, indem sie Rollen und Interaktionen der Akteure neu definiert. Sie ermöglicht personalisiertes Lernen und effiziente Verwaltung, fordert aber auch eine Neubewertung der Rollen der Akteure. Der **Computer** Einsatz von KI führt zu einer Verschiebung von traditionellen Lehrmethoden und transformiert die Tätigkeiten des administrativen und technischen Personals, indem sie Prozesse automatisiert und Entscheidungsfindungen unterstützt.

There's no new revolution here!

*Learning is learning.
Unfortunately, not yet like in the Matrix (movie).*

Teaser: 2nd Paragraph

Yes!

Dies verlangt neue Kompetenzen in der Datenanalyse und Systemwartung, verschiebt Arbeitsinhalte von Routineaufgaben zu strategischer Planung und Entwicklung und erfordert eine kontinuierliche Weiterbildung in digitalen Technologien. Der Wandel fördert eine effizientere Hochschulverwaltung und verbessert die Dienstleistungen für Studierende.

I don't know. I guess. ;-)

AI Revolution?

People like flashy things, controversies, bad news, sensations since the gladiators (or since the beginning of time).

Law of Triviality

Majority of people cannot discuss complex matters, so they focus on less complex, easy or trivial matters.

«Some people have commented that the amount of noise generated by a change is inversely proportional to the complexity of the change.»

(Source: https://en.wikipedia.org/wiki/Law_of_triviality)

Higher Education

Because people have a hard time thinking, it is good that we have these wonderful institutions like universities, where people think.

Institutions serve broader societal functions, such as governance, education, healthcare, justice, or cultural preservation. The purpose of institutions is to provide a framework for organizing and regulating societal activities, ensuring stability, order, and collective cooperation. ([Testbook.com, Difference Between Organization and Institution](https://www.testbook.com/difference-between-organization-and-institution/))

Players in Higher Education

- **Students:** They are the central players in higher education. Their main goal is to acquire knowledge and skills through courses and research projects.
- **Lecturers and professors:** This group includes all teaching staff. They give lectures, lead seminars, supervise research projects and are often also involved in scientific research.
- Researchers
- Administrative staff
- Technical staff
- Librarians and information managers
- Advisory services
- Managers
- External stakeholders

My Line of Argument

There's **nothing new** under the sun.

People are people.

Change is constant.

Learning is work/hard/fun.

Nothing new: Student

Students use more and more 'own' tools and resources to learn. Work processes and production are faster.

- Since calculators, MS Word automatic spelling correction, Wikipedia, MOOCs, and DeepL students get work done faster.
- AI is one more tool.

Anecdote: Microfiche

The latest: Automatic subtitling of videos in your browser



Source: [The Crowley Company](#)

Possible AI Tools for Students

Soon, in the future or not

- AI-chatbot (on website, in LMS)
- AI-based eligibility assessment
- AI-based advisory system
- AI-supported learning system (adaptive learning)

What does AI do?

Calculate probabilities on big data

Big Data in education?

«Traditional AI techniques rely on large amounts of structured data, a rarity in education.»

(Source: [What AI means for higher education teaching: hype vs reality, University World News](#))

It is different for research. Most research can amass lots of data.

What does AI do?

Calculate probabilities (on not so much data)

And, do you want to advise your students with the most probable outcome?

Nice discussion paper, that could have been my talk.

[9 Mythen über generative KI in der Hochschulbildung](#) (Hochschulforum Digitalisierung, 2024) – read at least the 10 conclusion points.

Nothing new and doesn't change: Student

Learning is work/hard/fun.

Anecdote: Medieval lecture

Students: What we can change

Give them their freedom back!

Trust that they want to learn.

It's an attitude, with consequences for the system. And then, ChatGPT is not an issue.

AI, not to cut corners but to inspire, understand, learn, produce.

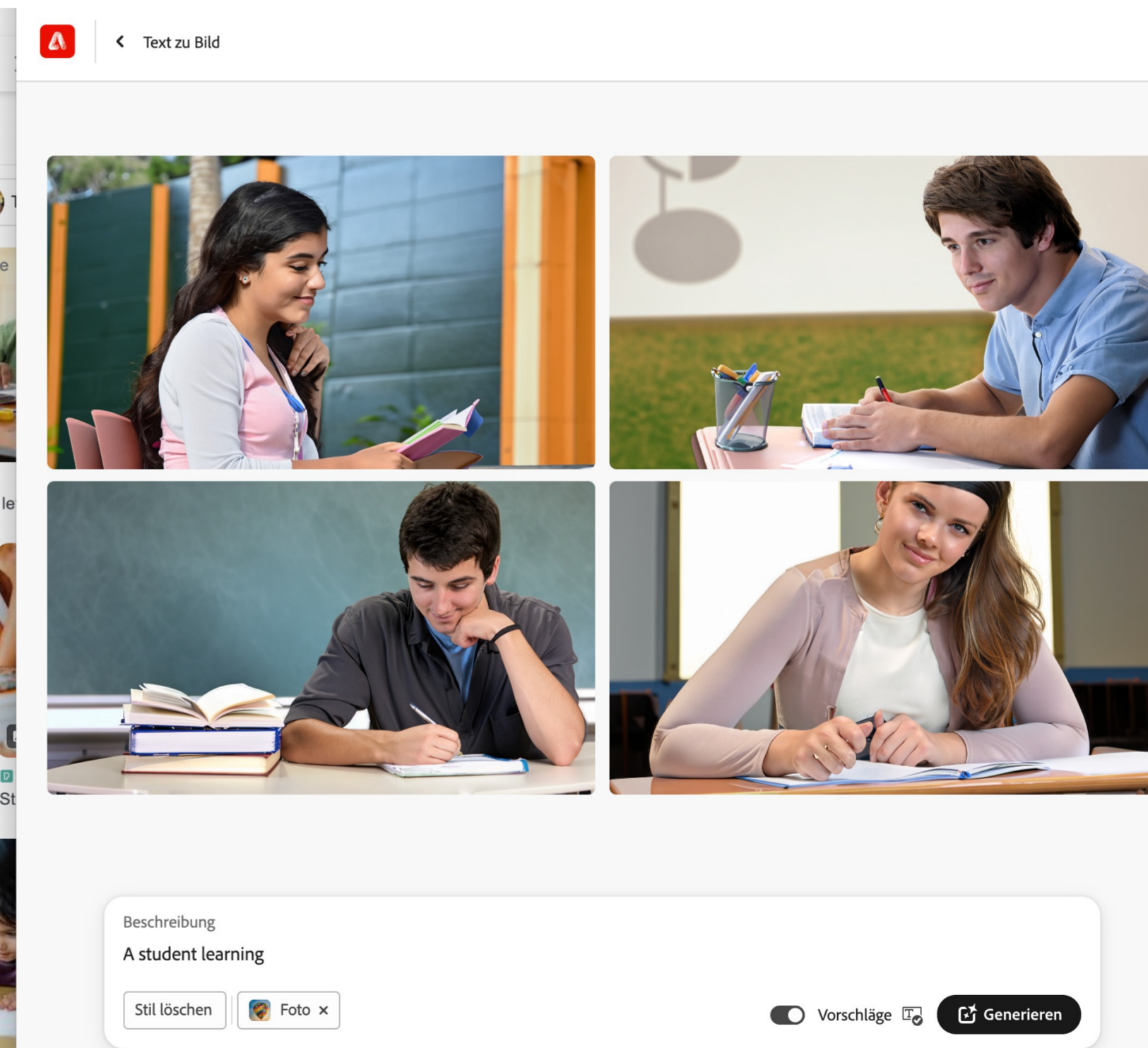
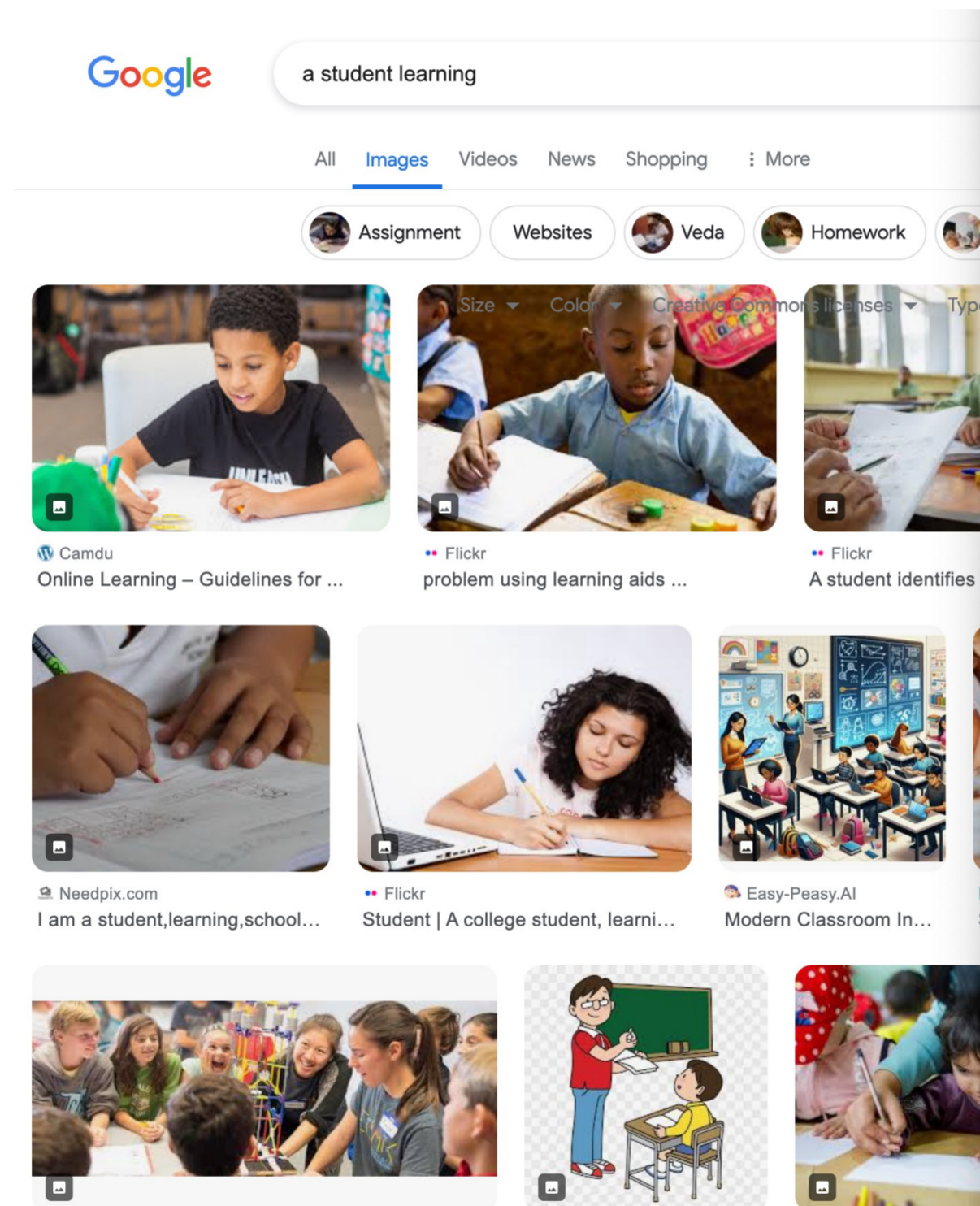
Nothing new and doesn't change: Student

Prompt:

A student learning

Left: Google

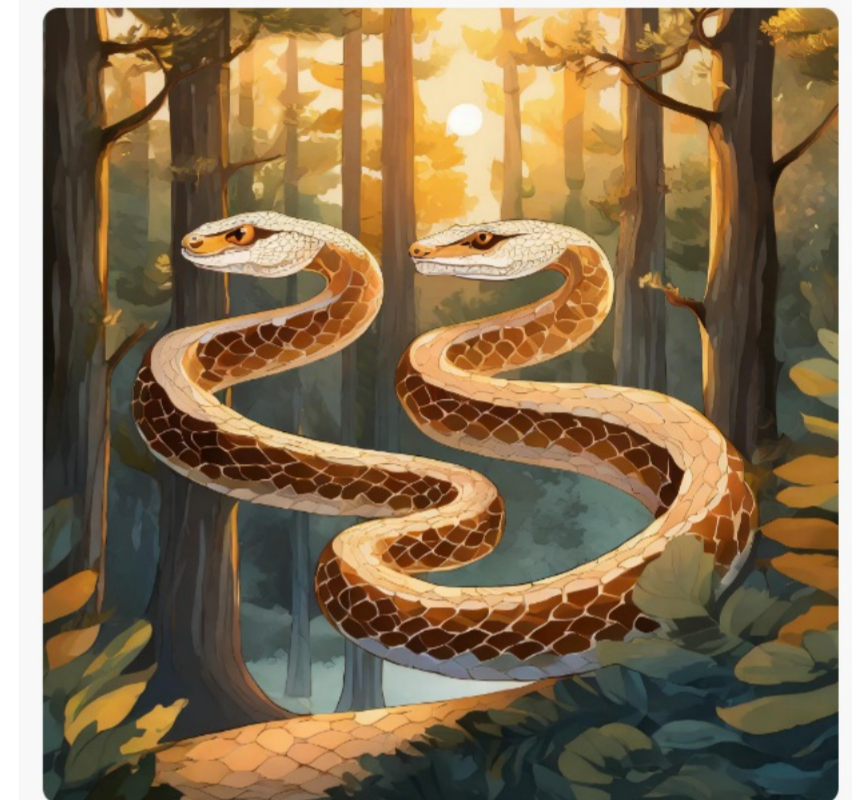
Right: Firefly



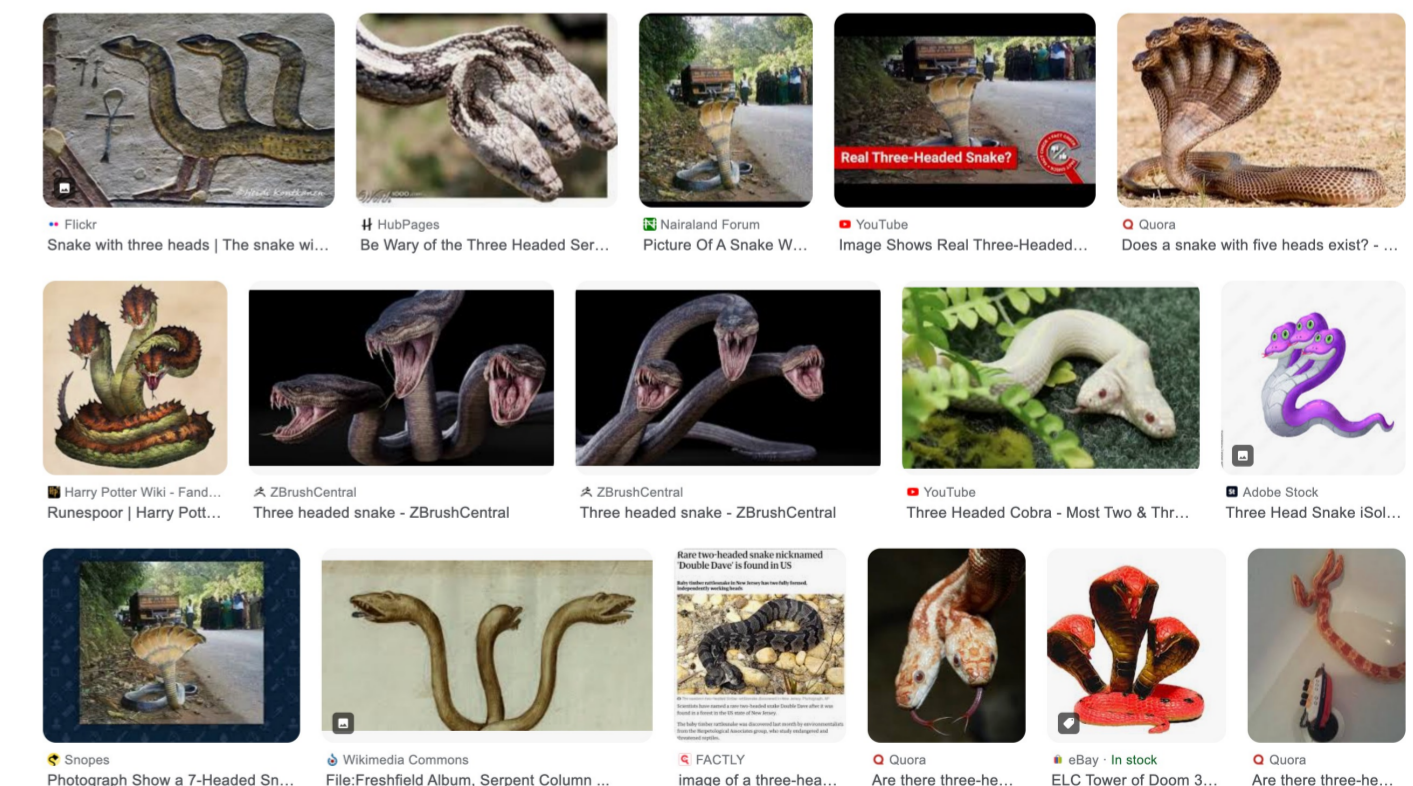
Firefly (AI image generator)



Prompt in Firefly:
A medieval scene in a forest with a knight fighting a three-headed serpent.



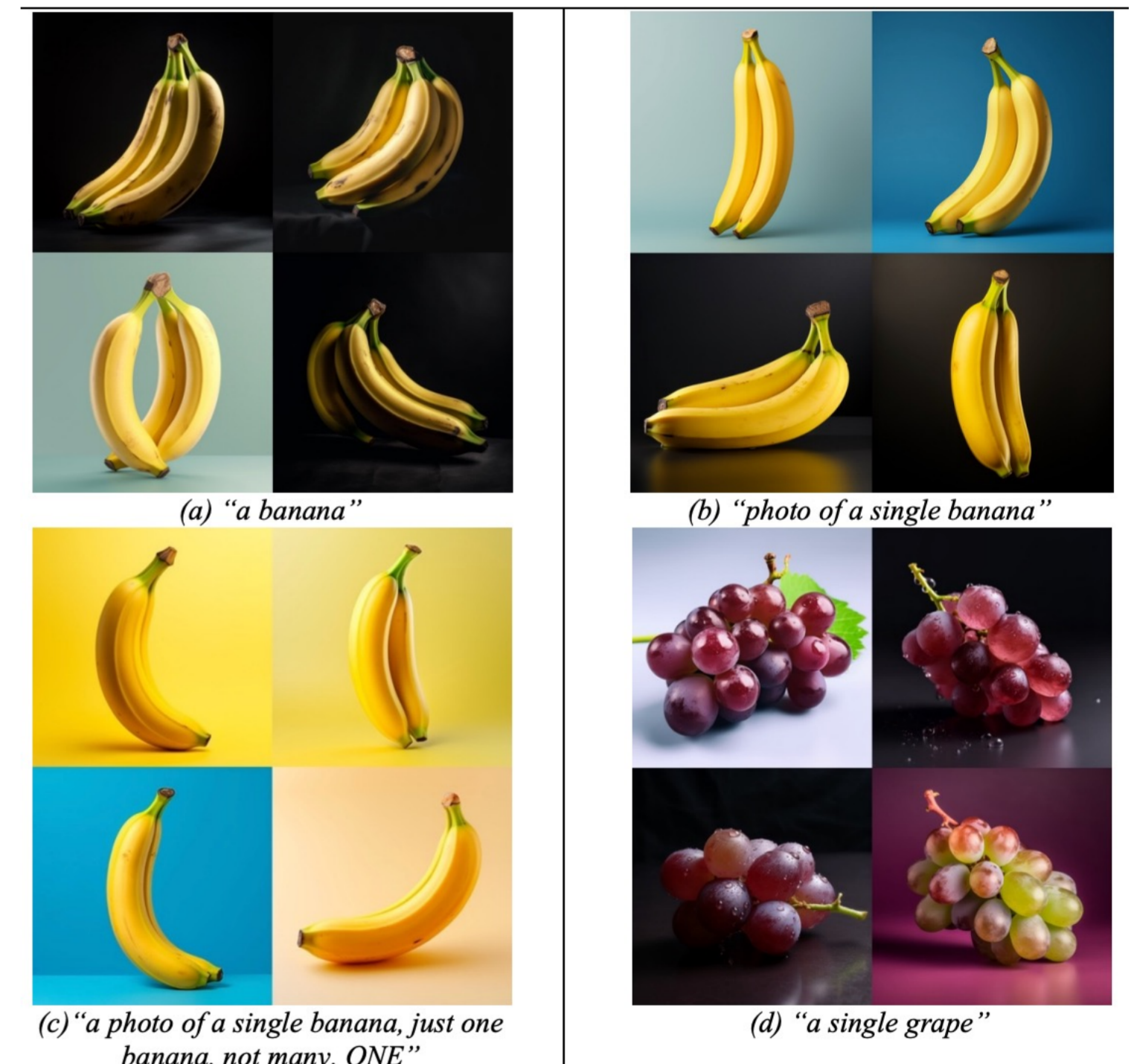
Prompt in Firefly:
A serpent with three heads in a forest, taken at the golden hour



The Lone Banana Problem

TL;DR last June a guy discovered it was impossible to get MidJourney to draw a picture of a single banana. No matter how he wrote the prompt, the AI always drew a bunch. Then some academics, who apparently weren't that busy, wrote a paper exploring what the lone banana problem could teach us about how AI works. ([Riemer & Peter](#))

Their theory: AI doesn't know what a "banana" is, or even that a banana is a thing. It just sort of assembles a concept of "banana-ness" from all the data in its model—and bananas are most often seen in bunches, so that's how it draws them.



Nothing new: Lecturer

Lecturers are coaches and evaluators, more and more so.

- Since calculators, MS Word automatic spelling correction, Wikipedia, MOOCs, and DeepL, they cannot be the «Sage on the Stage» anymore.
- AI is one more tool.

Important right now:

- Old and new assessments (adjusted to the competence), or none.
- Not be blinded by the flashy language of AI (natural human/societal bias)

Nothing new: All the Players (1)

All the players use the advancement in technology

- [dito] Computers!
- AI is one more tool. Already around: digital space and biohacking.

Expansion of scientific (sub-)fields, mostly interdisciplinary

Data Science, Neuroscience, Nanotechnology, AI in Medicine

Important right now:

- IT departments in universities need to continue developing (not 'just' changing from analogous to digital).
- Automation and digitalization for not approximative work (like admin).

Space is physical and digital.
Don't call it virtual! It's real.

Nothing new: All the Players (2)

Fake News, Fake Videos, Fake ...

My mom! Confidence and trust.

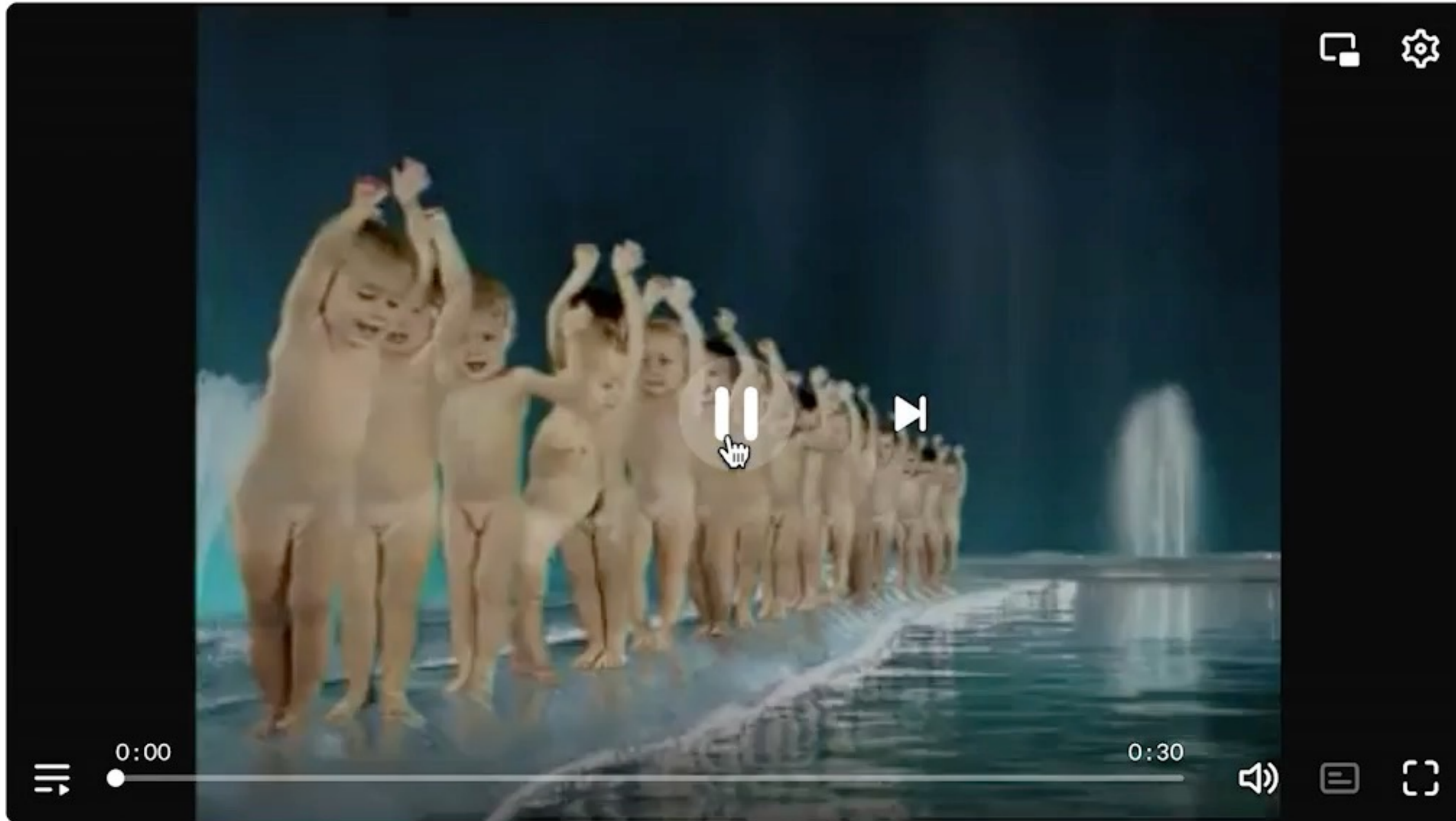
ChatGPT to the rescue

User 

When was the first evian ad with babies shown on tv.

ChatGPT

The first Evian commercial featuring babies, often referred to as the "Evian babies," was released in 1998. The ad, titled "Water Babies," featured animated babies performing synchronized swimming in a pool to highlight the purity of Evian water. This creative and memorable campaign gained widespread popularity and has since become iconic in the world of advertising.



Evian - eau minérale - novembre 1998 - "Evian, déclarée source de jeunesse pour votre corps", "Les Bébés nageurs"

Nothing new: All the Players (2)

Humans are very creative. With fakes, the intention is key.

Important right now:

- Institutions
- Copyright issues (political issue)

Big topics

Dichotomies

- fake and real
- control and trust

→ Institutions to the rescue!

Anecdote: Digital signatures

Recommendations

- Invest in technical infrastructure and technological developments.
- Take the digital space seriously (3D, identity and law).
- Trust where possible.
- Have integrity.
- Don't panic!

Let's go back to the beginning

Revolution, when? Funfact Electricity

«Brynjolfsson compares AI with electricity as an invention with economic impact. He mentions that the biggest gains from electricity didn't come until 30-40 years after it was introduced in factories, though he thinks that AI will spread faster. Still, the point remains that even though it's obvious that AI will change the way all companies work, it will take some time to work through organizational inertia.»

Source: <https://jakobnielsenphd.substack.com/p/ux-roundup-20240205>

Revolution

The revolution began with the printing press, namely the democratization of knowledge.

And the revolution people are now talking about –more precisely the **widespread** access to knowledge and processing power– began 20 to 40 (or more) years ago.

Conclusion

To «Transformierte Akteure und gewandelte Aufgaben:
Hochschulorganisation mit KI»

Yes, we're changing and transforming. We will use AI more and more.



Thank you!

Looking forward to 2034 and beyond!

100
Jahre | **Bildung
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Q&A

