



KI in der industriellen Produktion

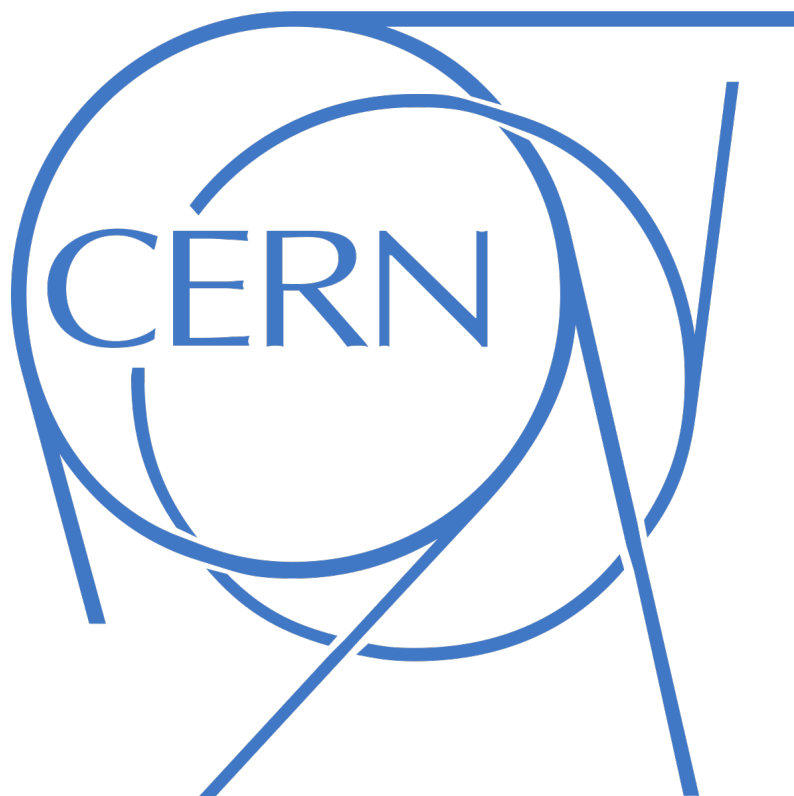
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Nobelpreise für KI

Es ist eine Revolution

Die KI-Welt ist voller halbseidener Versprechen. Hat sich das Nobelpreiskomitee vom Hype anstecken lassen? Nein, es ist wirklich die wichtigste Technologie unserer Zeit.

Ein Kommentar von [Jakob von Lindern](#) • Illustration: [Benjamin Gutheil](#)

10. Oktober 2024, 17:39 Uhr

▶ 6 Min. 211



How small Chinese AI start-up DeepSeek shocked Silicon Valley

Hedge fund billionaire Liang Wenfeng builds model on tight budget despite US attempt to halt China's high-tech ambitions





Motivation: Artificial Intelligence allows to automate human decision making

Use cases?



ChatGPT

M

What is the best burger recipe?



There are many different burger recipes out there, and the "best" one will depend on personal preference. Some people prefer their burgers to be simple and classic, while others like to experiment with different ingredients and flavors.

Here is a basic burger recipe that can serve as a starting point:

Ingredients:

- 1 pound ground beef
- 4 hamburger buns
- Lettuce, tomato, onion, and other toppings of your choice
- Salt and pepper

Instructions:

PA

How can I train a transformer using Keras?



To train a transformer using Keras, you will first need to install the Keras library. Once you have installed Keras, you can use the `Sequential` class to define your model, and the `add()` method to add a transformer layer to your model. Here is an example:

Copy code

```
# Import the necessary modules
from tensorflow import keras
from tensorflow.keras.layers import Dense, Transformer

# Define the model
model = keras.Sequential()

# Add a transformer layer to the model
model.add(Transformer(num_heads=8, d_model=512, input_shape=(None, 64)))

# Add a dense layer to the model
model.add(Dense(10, activation="softmax"))

# Compile the model
model.compile(optimizer="adam", loss="categorical_crossentropy", metrics=["accuracy"])

# Train the model
model.fit(X_train, y_train, epochs=10)
```

In this example, we are defining a model with a transformer layer that has 8 heads, a model size of 512, and takes input with a shape of `(None, 64)`, where `None` represents the batch size. We are also adding a layer with 10 output units and a

What is machine learning?

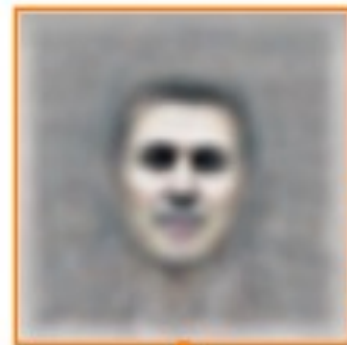
Machine learning is the field of study that gives computers the **ability to learn** without being *explicitly* programmed.



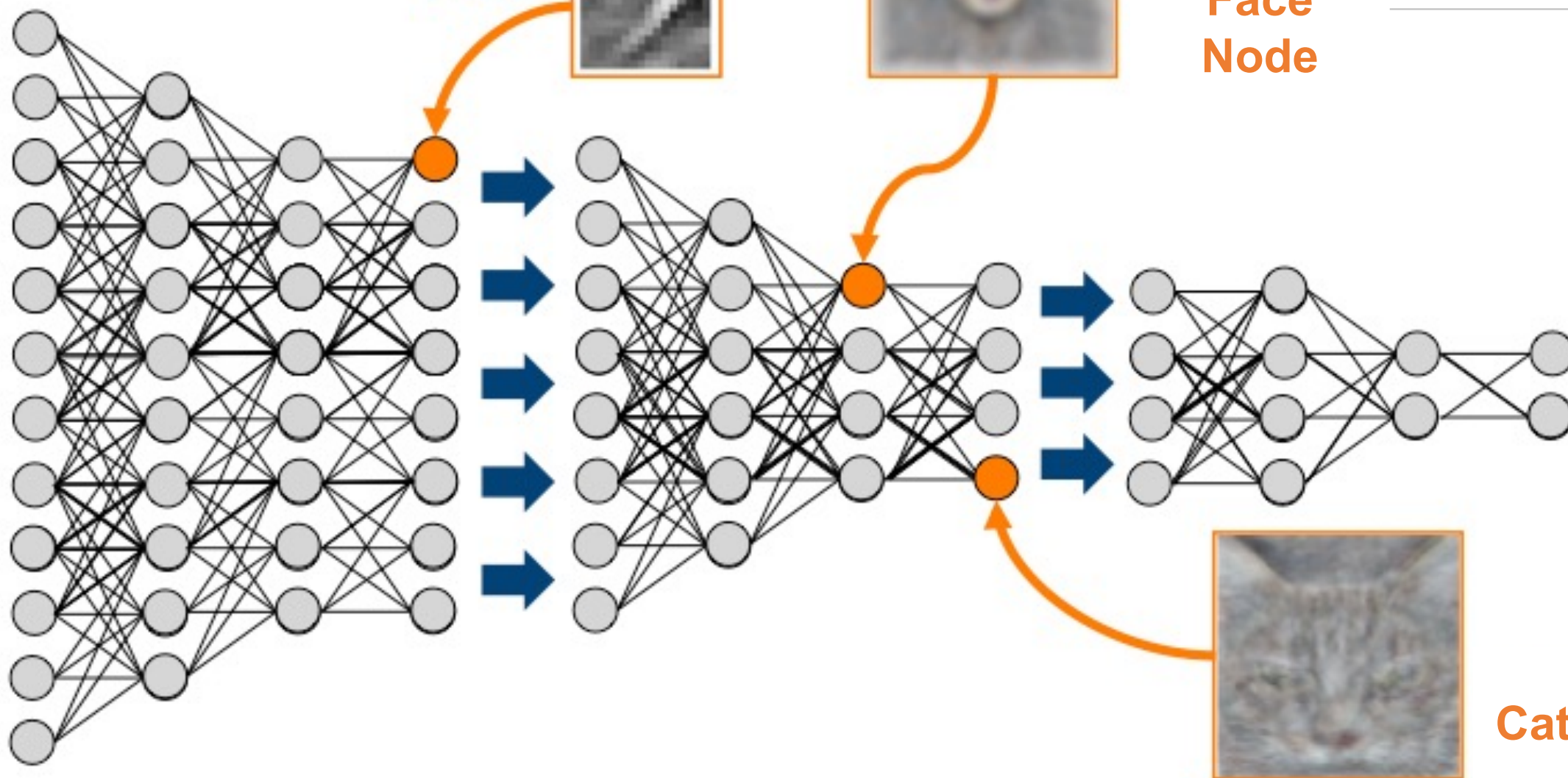
**Diagonal
Line Node**



**Face
Node**



Cat Node



Attention is all you need

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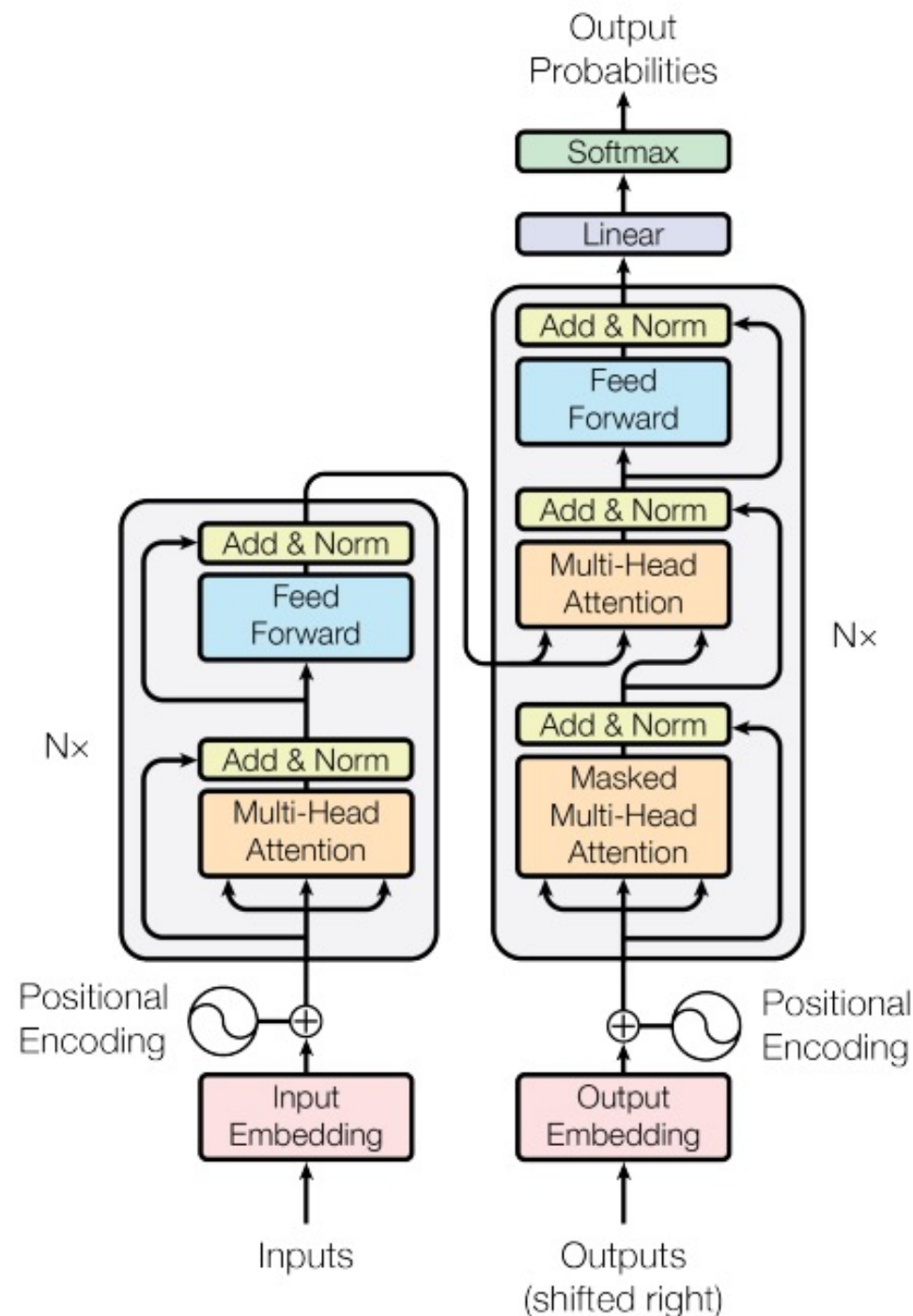
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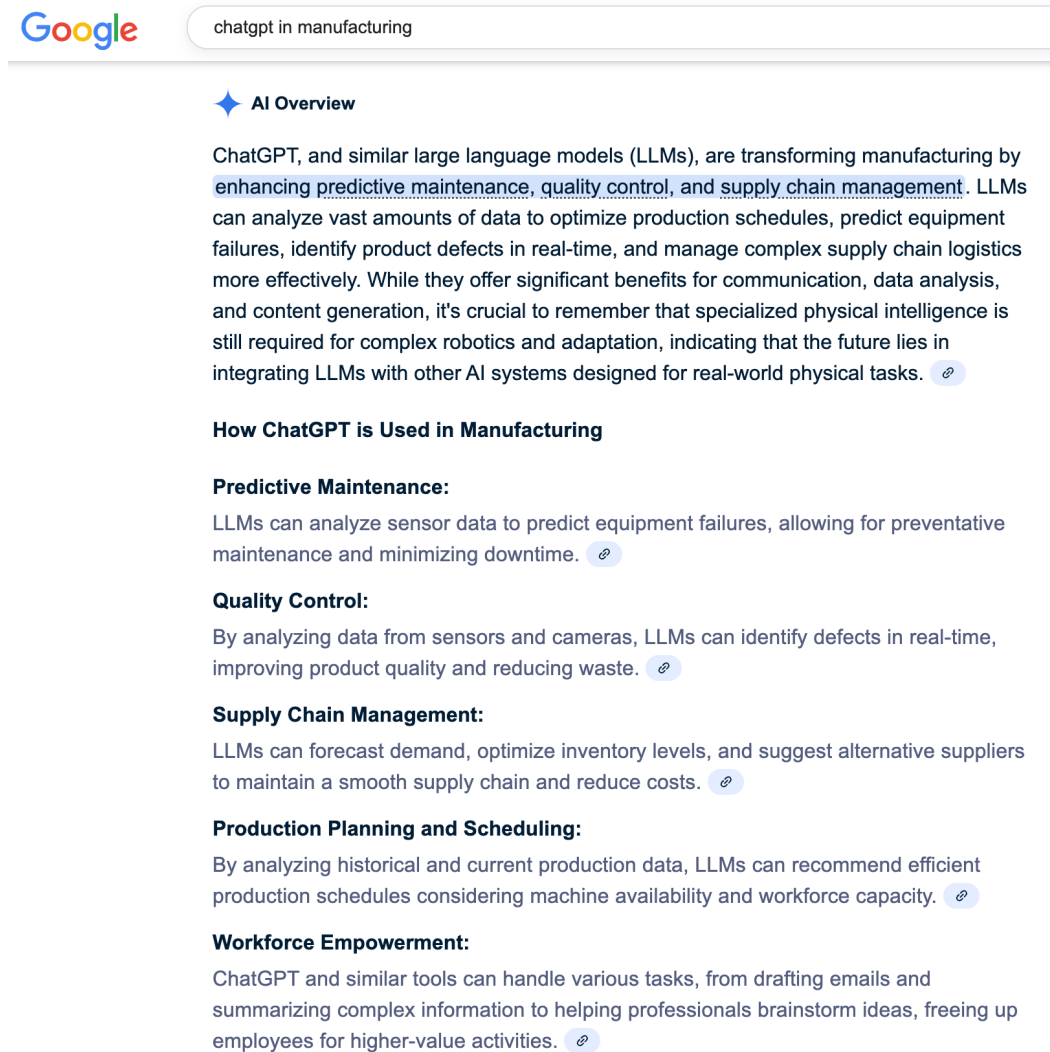
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Abstract

The dominant sequence transduction models are based on complex recurrent or convolutional neural networks that include an encoder and a decoder. The best performing models also connect the encoder and decoder through an attention mechanism. We propose a new simple network architecture, the Transformer, based solely on attention mechanisms, dispensing with recurrence and convolutions entirely. Experiments on two machine translation tasks show these models to be superior in quality while being more parallelizable and requiring significantly less time to train. Our model achieves 28.4 BLEU on the WMT 2014 English-to-German translation task, improving over the existing best results, including ensembles, by over 2 BLEU. On the WMT 2014 English-to-French translation task, our model establishes a new single-model state-of-the-art BLEU score of 41.8 after training for 3.5 days on eight GPUs, a small fraction of the training costs of the best models from the literature. We show that the Transformer generalizes well to other tasks by applying it successfully to English constituency parsing both with large and limited training data.



Use Cases von ChatGPT in der Produktion?



The image is a screenshot of a Google search result. At the top, the Google logo is on the left, and a search bar contains the text 'chatgpt in manufacturing'. Below the search bar, there is a section titled 'AI Overview' with a blue star icon. The main text of the overview discusses how ChatGPT and other large language models (LLMs) are transforming manufacturing by enhancing predictive maintenance, quality control, and supply chain management. It mentions that LLMs can analyze vast amounts of data to optimize production schedules, predict equipment failures, identify product defects in real-time, and manage complex supply chain logistics more effectively. It also notes that while they offer significant benefits for communication, data analysis, and content generation, specialized physical intelligence is still required for complex robotics and adaptation, indicating that the future lies in integrating LLMs with other AI systems designed for real-world physical tasks. Below this main text, there are four sub-sections, each with a bold title and a paragraph of text: 'How ChatGPT is Used in Manufacturing', 'Predictive Maintenance:', 'Quality Control:', and 'Supply Chain Management:'. Each of these sub-sections is followed by a paragraph of text and a small blue icon with a circular arrow. The final sub-section is 'Production Planning and Scheduling:', followed by a paragraph of text and a small blue icon with a circular arrow. The last sub-section is 'Workforce Empowerment:', followed by a paragraph of text and a small blue icon with a circular arrow.

Google chatgpt in manufacturing

✦ **AI Overview**

ChatGPT, and similar large language models (LLMs), are transforming manufacturing by enhancing predictive maintenance, quality control, and supply chain management. LLMs can analyze vast amounts of data to optimize production schedules, predict equipment failures, identify product defects in real-time, and manage complex supply chain logistics more effectively. While they offer significant benefits for communication, data analysis, and content generation, it's crucial to remember that specialized physical intelligence is still required for complex robotics and adaptation, indicating that the future lies in integrating LLMs with other AI systems designed for real-world physical tasks. 

How ChatGPT is Used in Manufacturing

Predictive Maintenance:

LLMs can analyze sensor data to predict equipment failures, allowing for preventative maintenance and minimizing downtime. 

Quality Control:

By analyzing data from sensors and cameras, LLMs can identify defects in real-time, improving product quality and reducing waste. 

Supply Chain Management:

LLMs can forecast demand, optimize inventory levels, and suggest alternative suppliers to maintain a smooth supply chain and reduce costs. 

Production Planning and Scheduling:

By analyzing historical and current production data, LLMs can recommend efficient production schedules considering machine availability and workforce capacity. 

Workforce Empowerment:

ChatGPT and similar tools can handle various tasks, from drafting emails and summarizing complex information to helping professionals brainstorm ideas, freeing up employees for higher-value activities. 

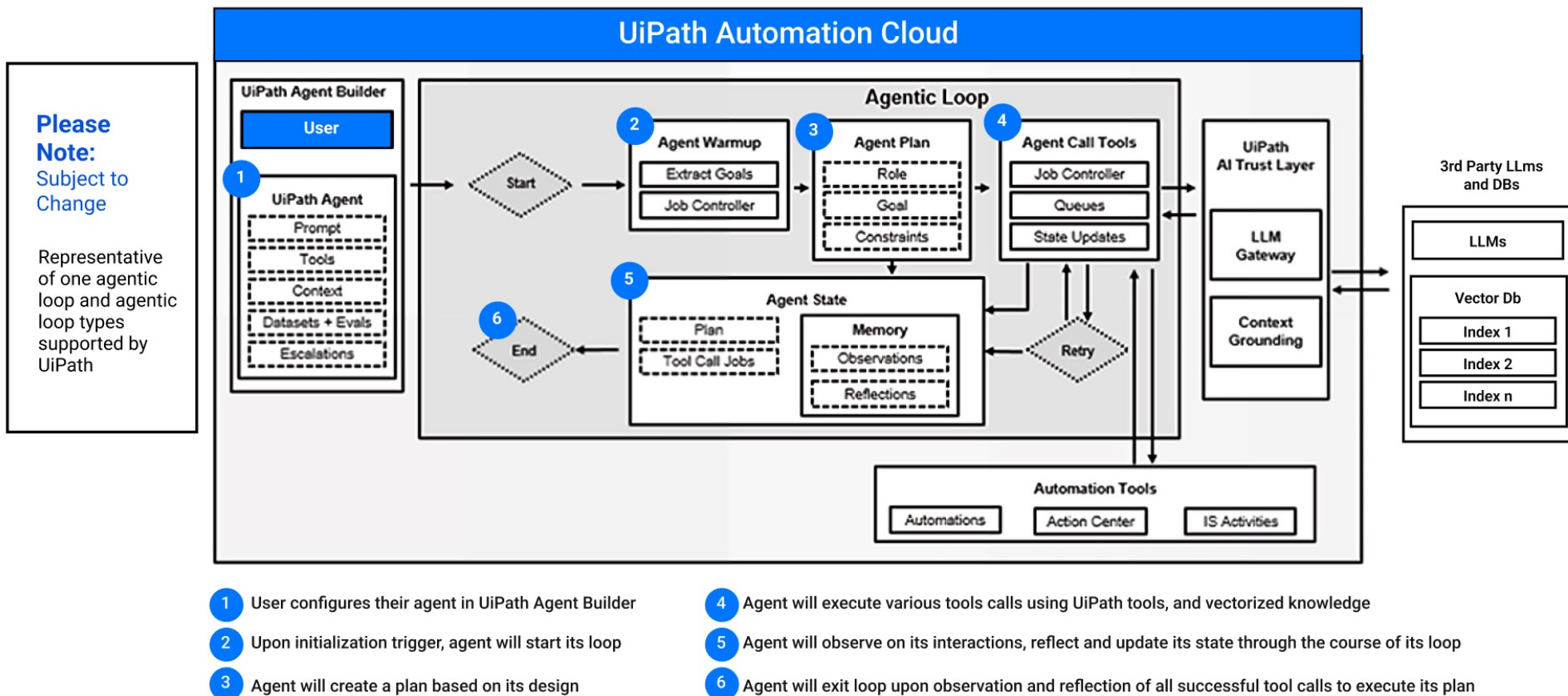


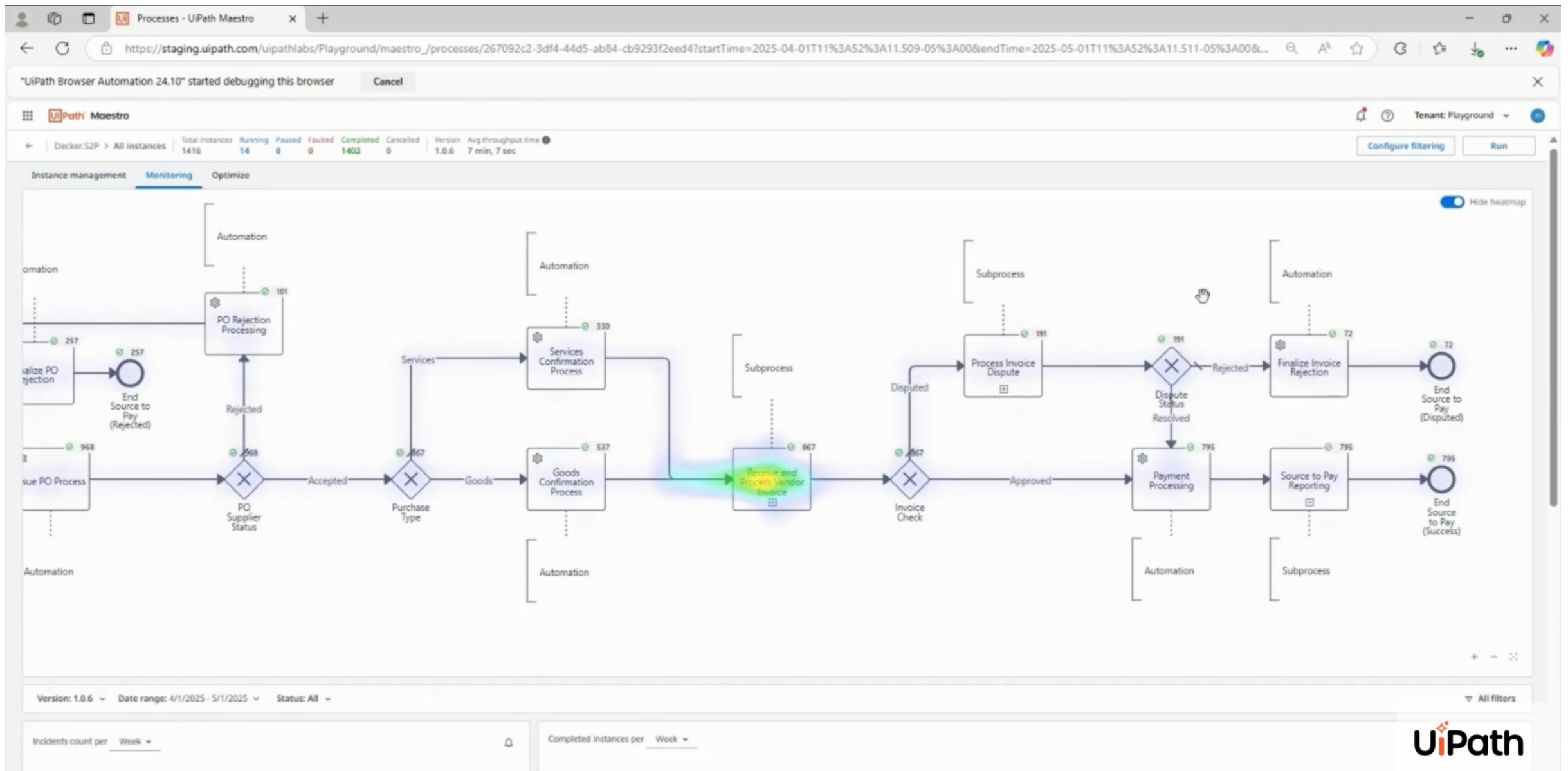
AI Agents

— A BEGINNER'S GUIDE



UiPath Agent Builder Conceptual Architecture Diagram

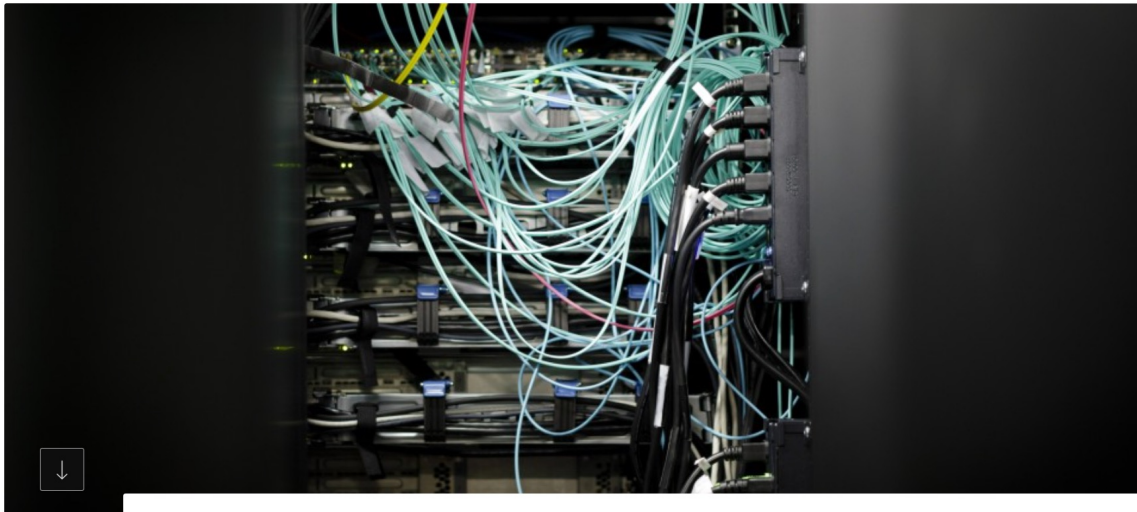




KÜNSTLICHE INTELLIGENZ

Warum die Hälfte der deutschen Unternehmen auf KI verzichtet: Ihnen fehlt eine KI-Strategie

VON MATTHIAS HANDRICH UND PATRICK GLAUNER - AKTUALISIERT AM 03.04.2024 - 06:34



Eine KI-Strategie besteht aus vier Säulen: Anwendungsfällen, Bildung, IT-Infrastruktur und Daten sowie Organisation und Governance. Das Problem damit: Weil den meisten Unternehmen diese Strategie fehlt, kommt die KI in Deutschland nur langsam voran. Ein Gastbeitrag von Matthias Handrich und Patrick Glauner



ZEITUNG



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PRO DIGITALWIRTSCHAFT

Abo



BERATUNGSBRANCHE

Wie KI das Geschäftsmodell der Berater verändert

GASTBEITRAG von Patrick Glauner, Christian Mandl 29.01.2025, 06:40 Lesezeit: 4 Min.



Künstliche Intelligenz (KI) verändert die Berufswelt und Geschäftsmodelle rasant – und spielt dabei auch in der Beratungsbranche eine entscheidende Rolle.

Artificial Intelligence opportunities in an organization



KPIs



Value chain



Products/services

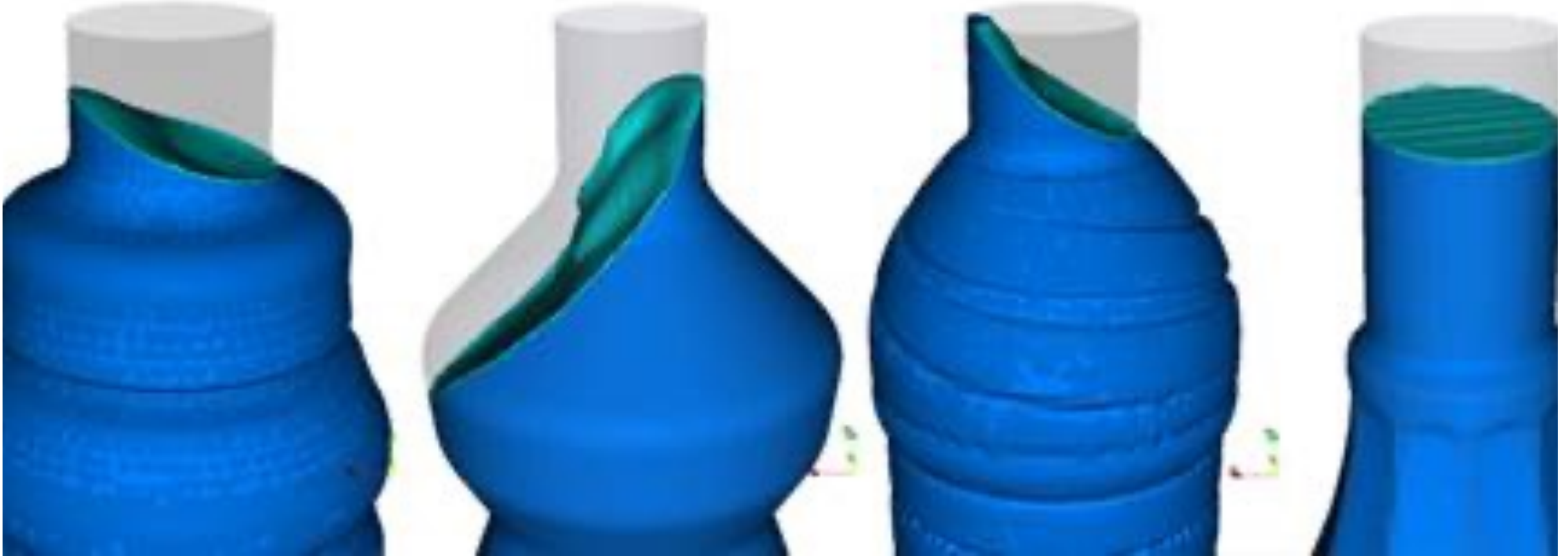


UNCERTAINTY
AHEAD

When you should look
into Artificial Intelligence

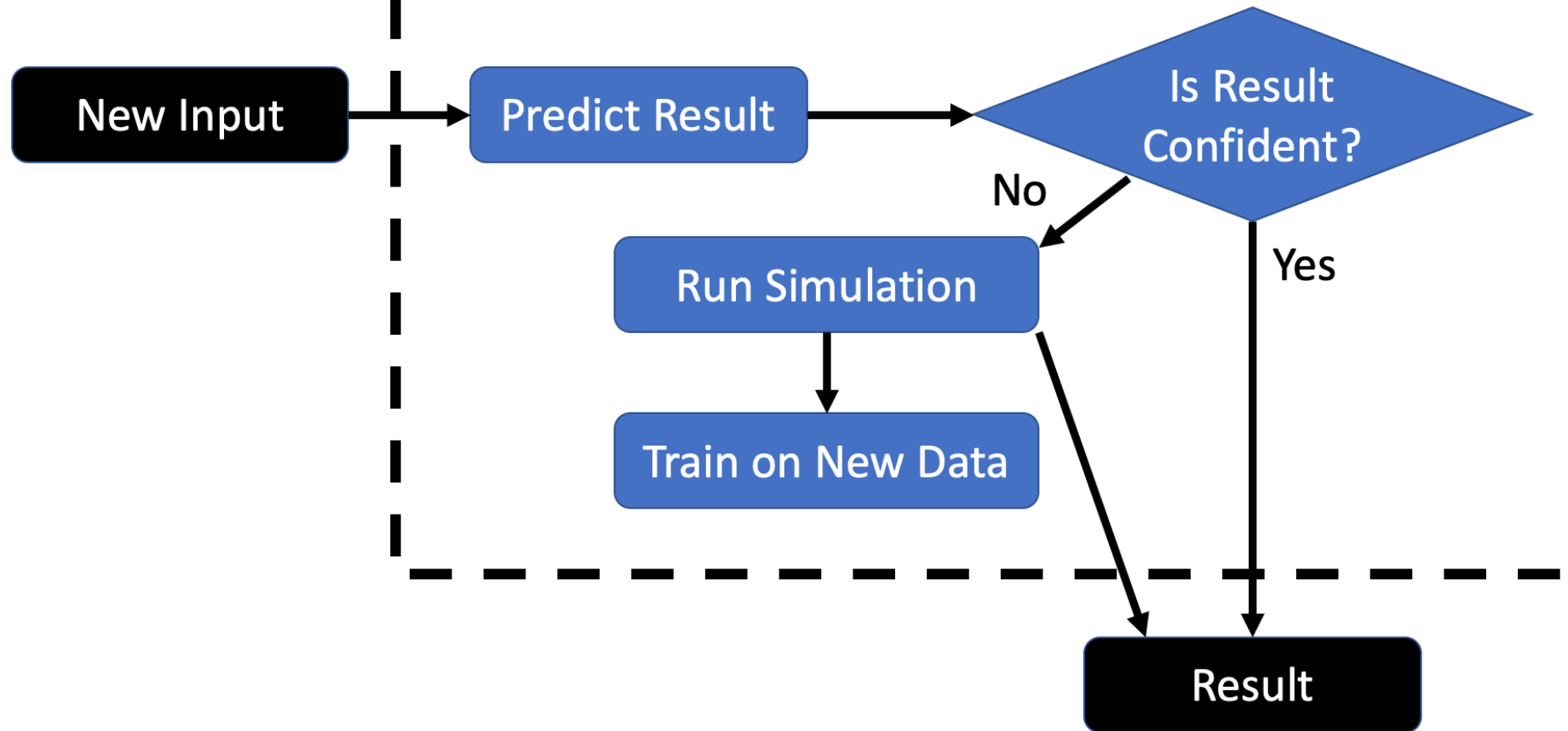


Source: Krones Group



Use case: predicting the
outcome of simulations

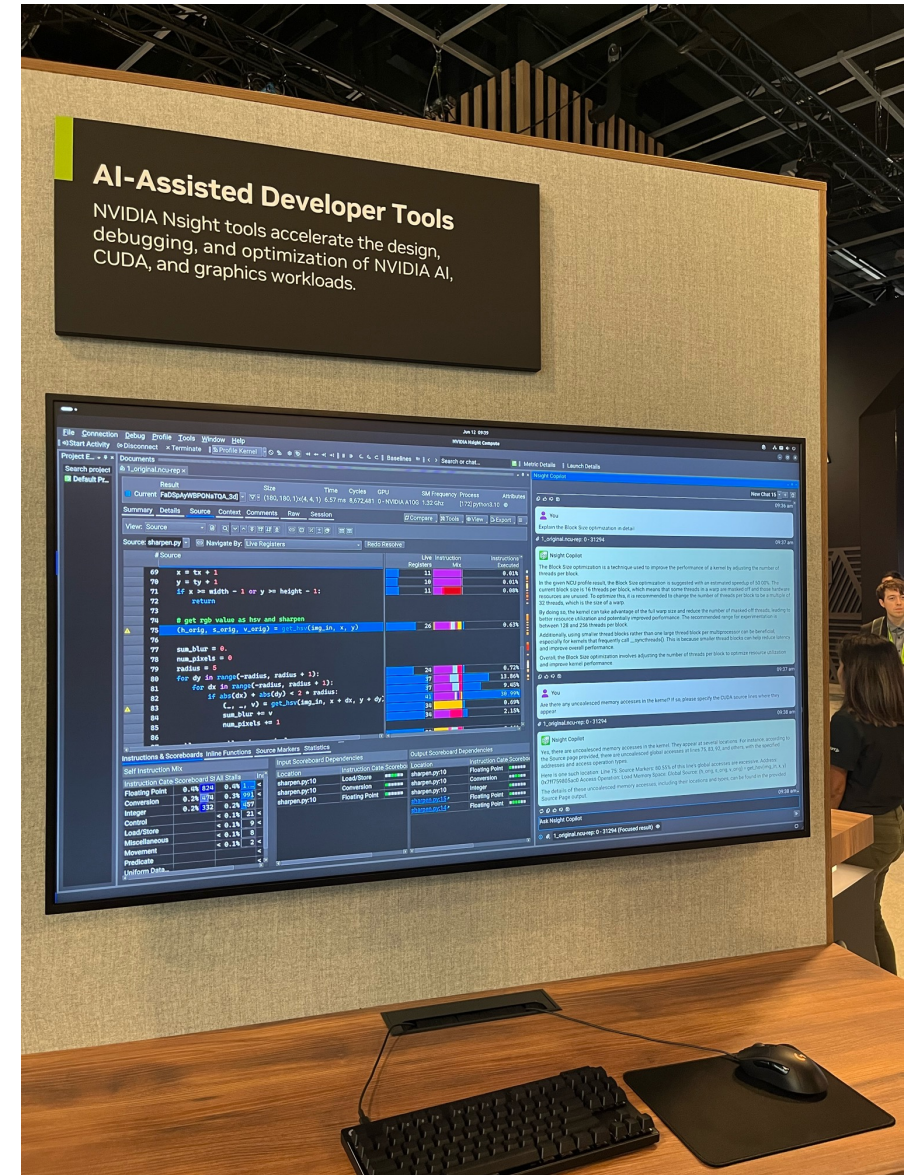
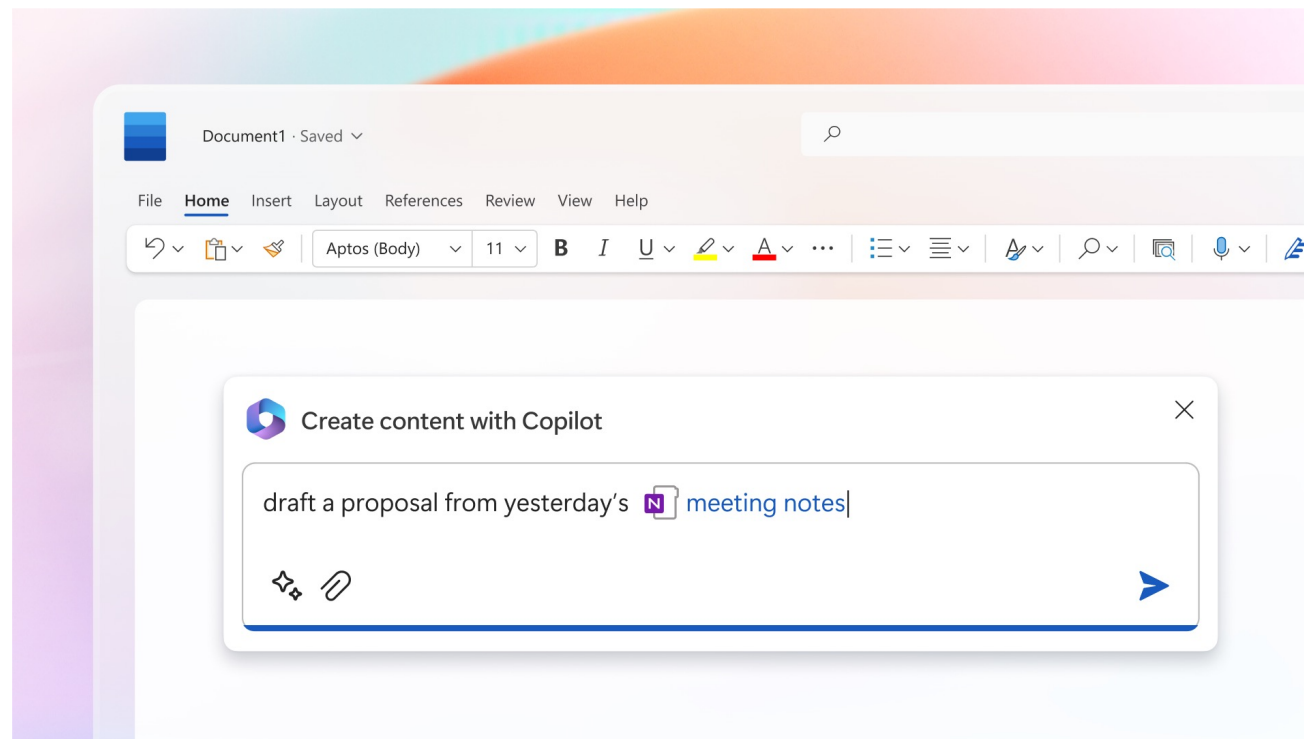
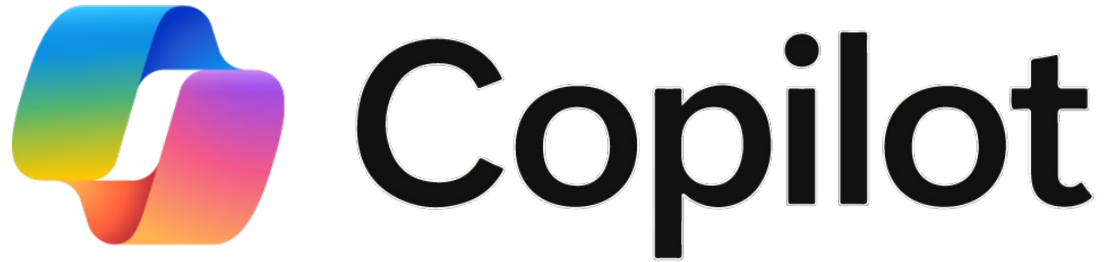
Artificial Intelligence



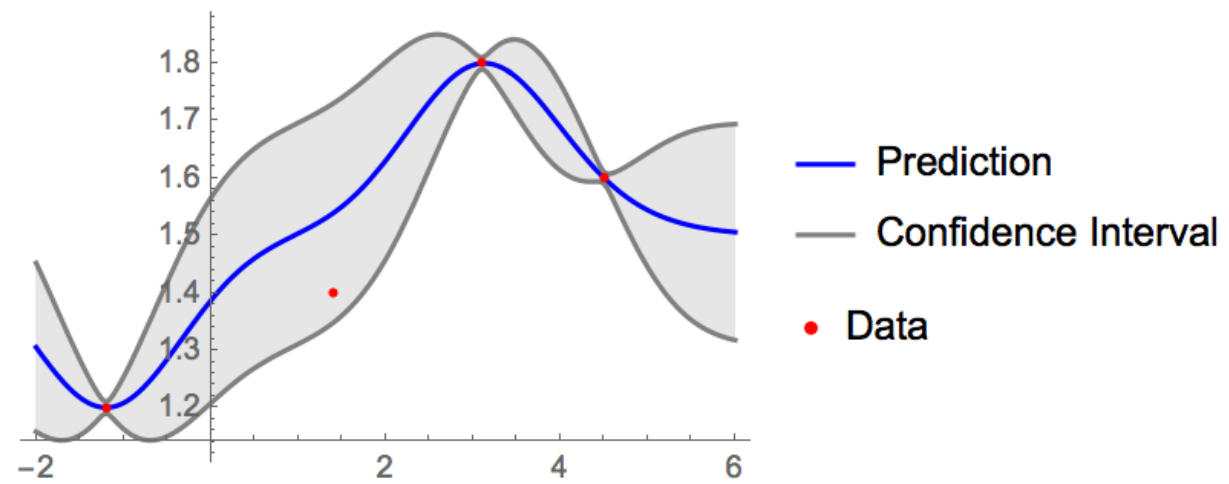
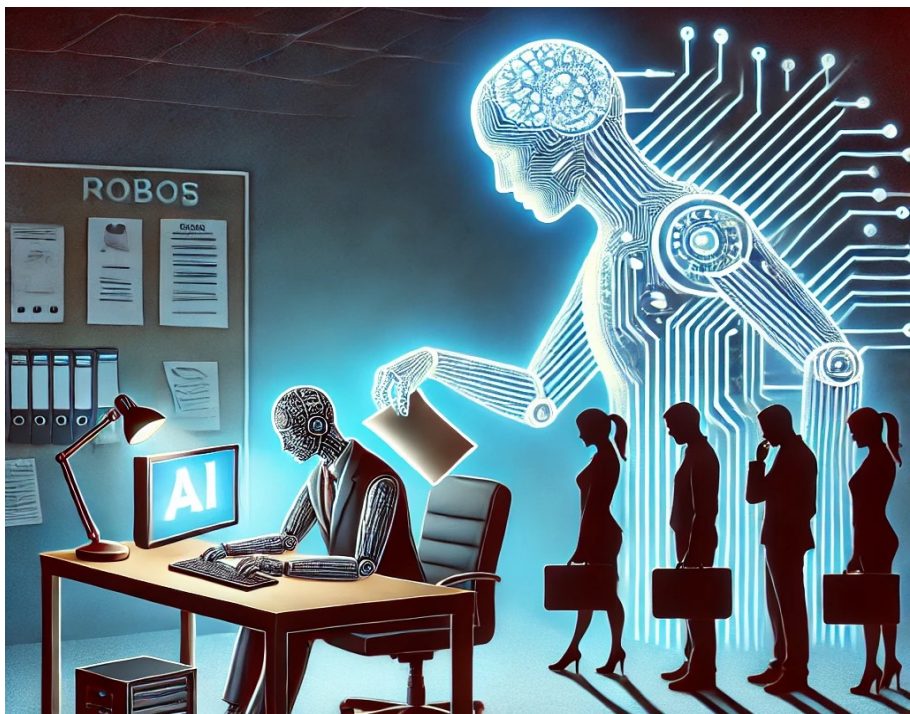
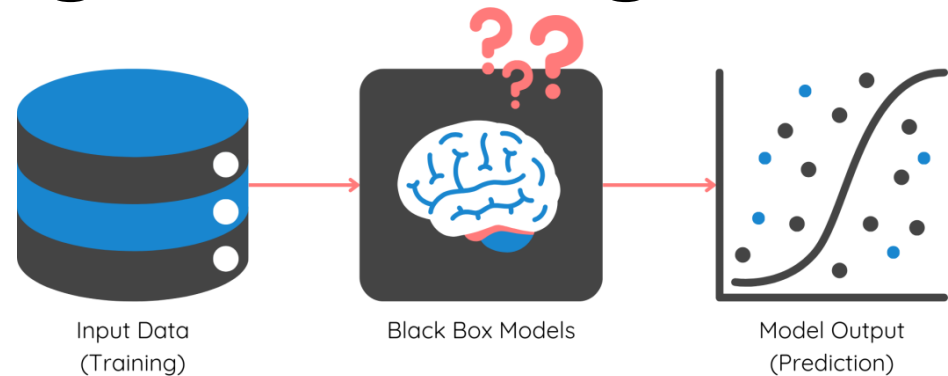
Use case:
generating
layouts of
machines

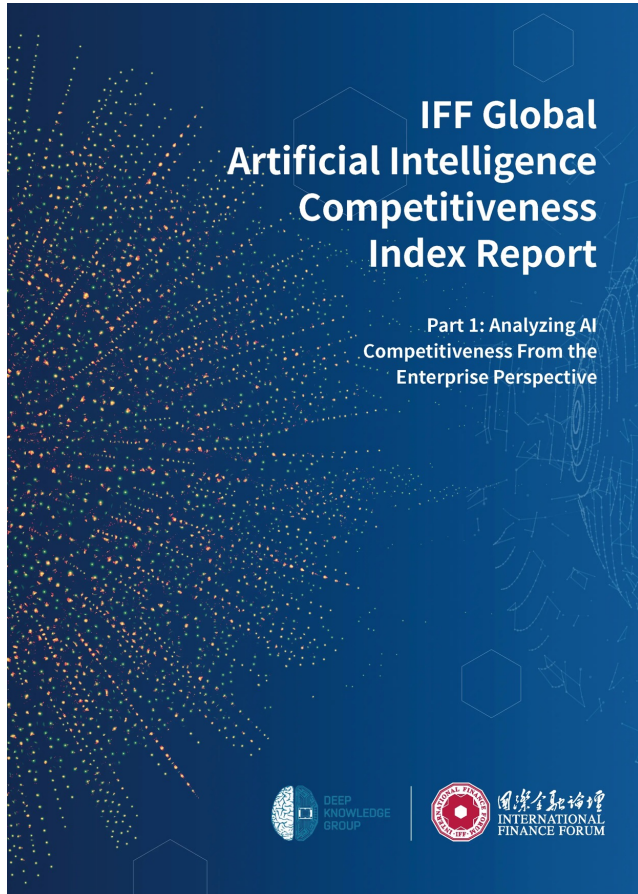


Source: Krones Group



Sorgen und Ängste

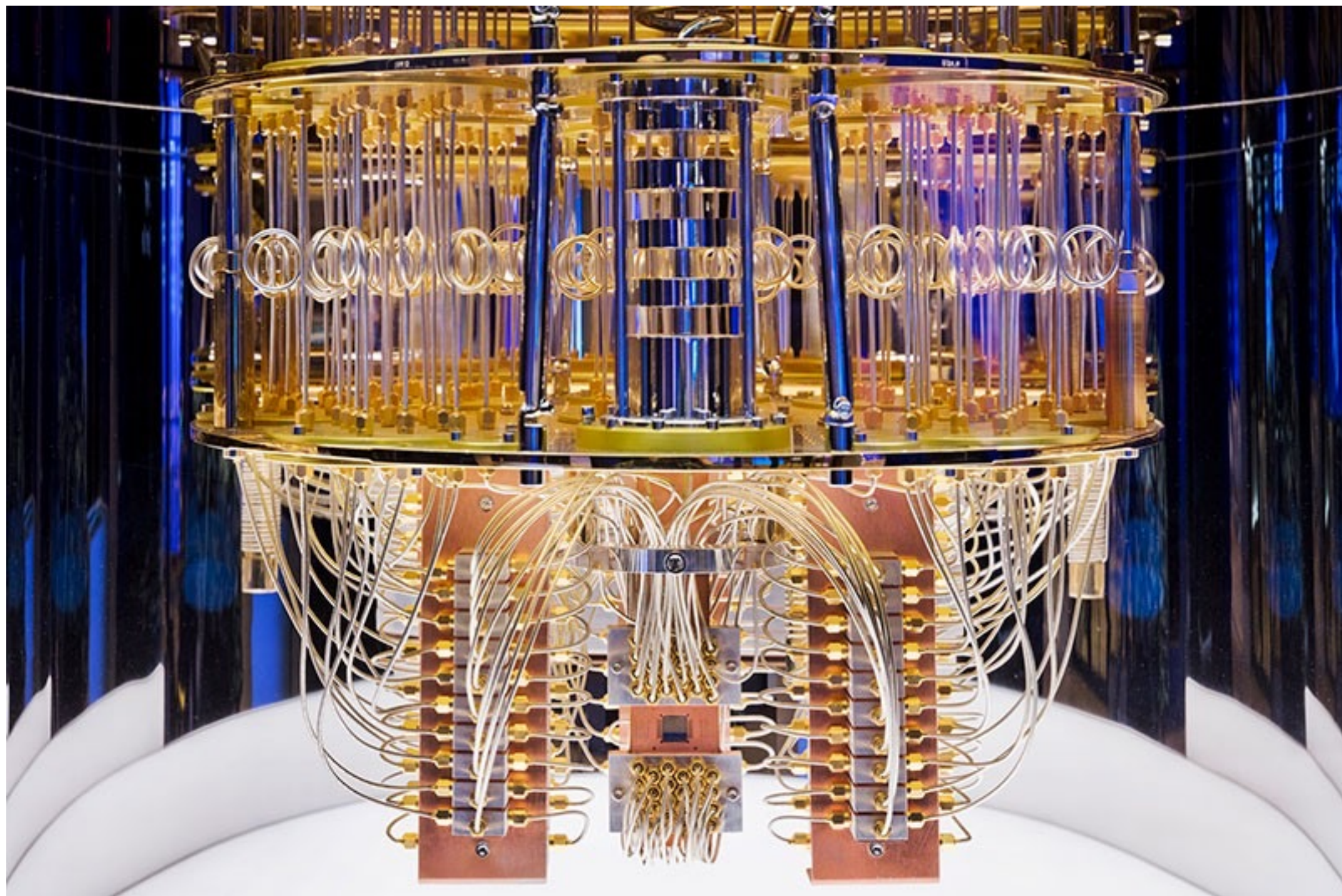


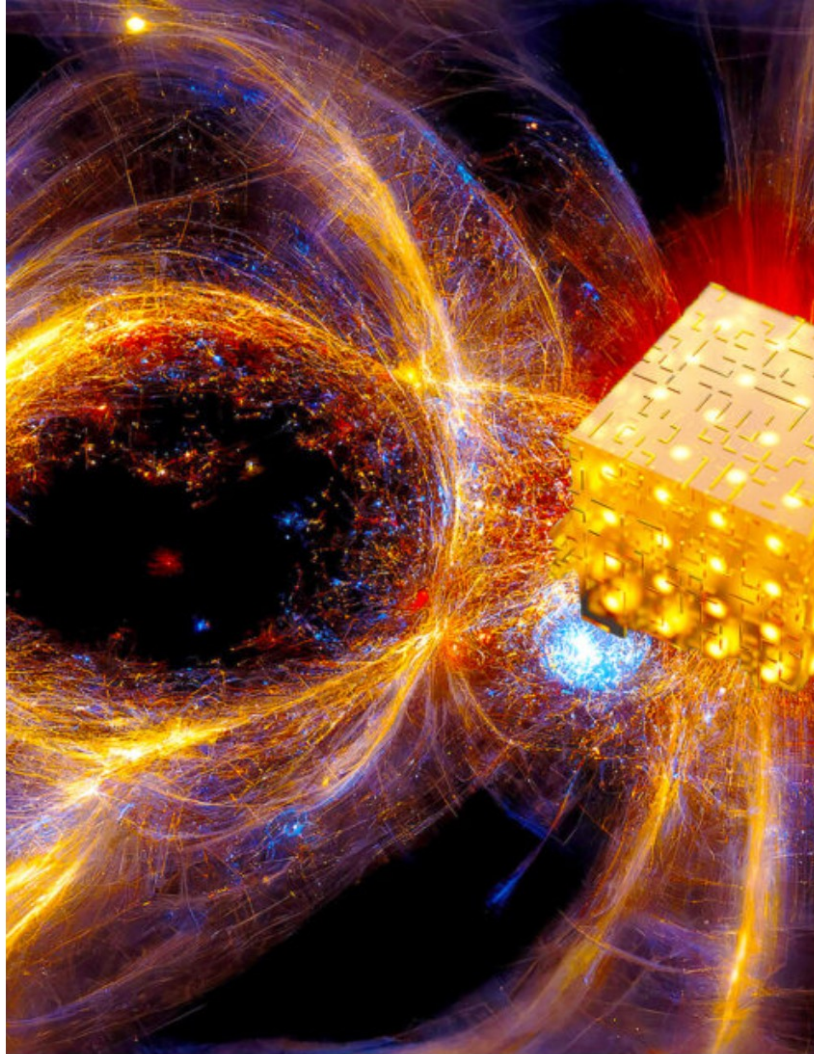


Learn more:

<https://www.glauner.info/ai-competitiveness-index-reports>







ARGUMENT *An expert's point of view on a current event.*

Why Quantum Computing Is Even More Dangerous Than Artificial Intelligence

The world already failed to regulate AI. Let's not repeat that epic mistake.

By Vivek Wadhwa, a columnist at *Foreign Policy*, entrepreneur, and author, and Mauritz Kop, a fellow and visiting scholar at Stanford University.



08-04-2023

Quantum computer built to instantly execute a task that normally take 47 years



Patrick Glauner

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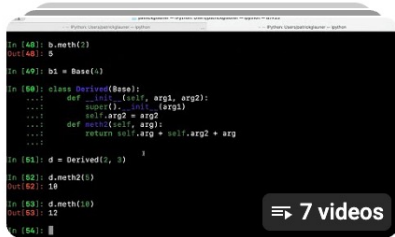
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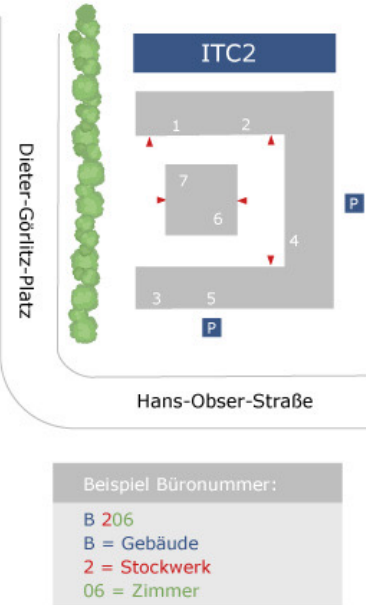
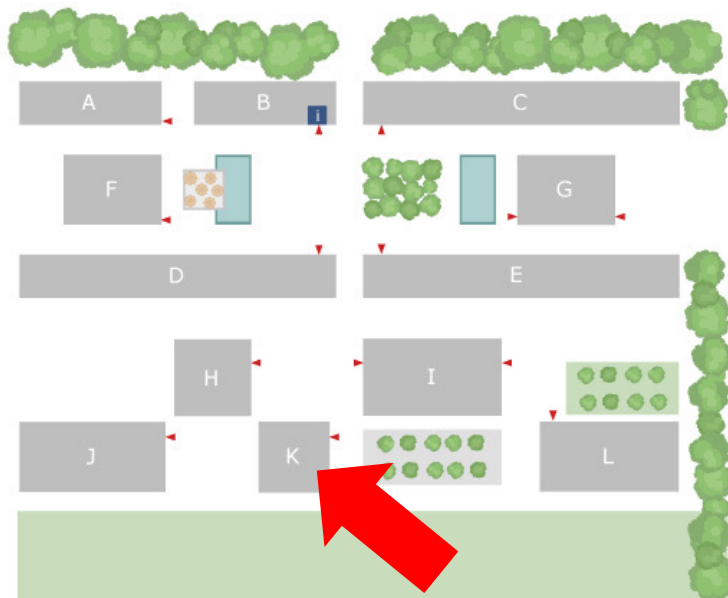


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