



AI and Blockchain

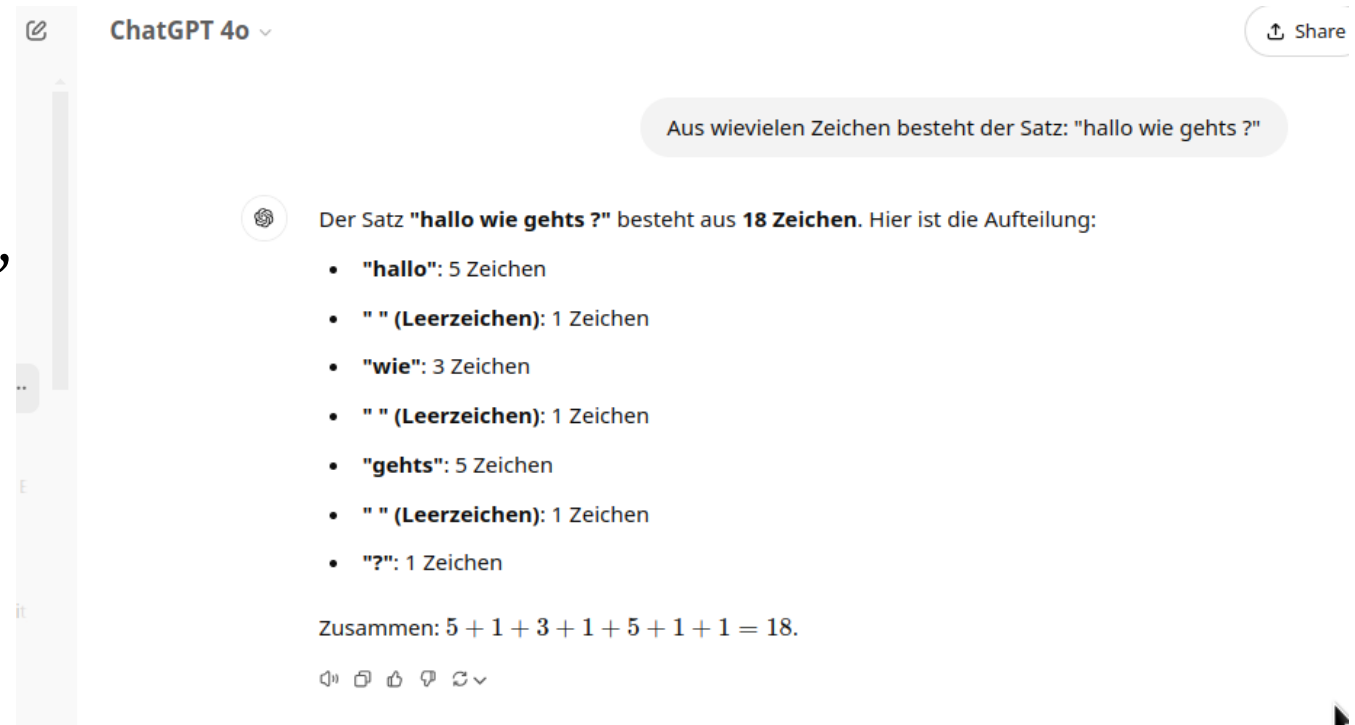
Overlapping or just an intersection of two overhyped topics

Agenda

1. Intro
2. Combination of AI and Blockchain Technology
3. AI - Negative use cases
4. DeepFakes
5. Countering DeepFakes with Blockchain Technology
6. QA

Intro

- No need to introduce Blockchain Tech
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- AI is a bit of a different story
 - Classic AI (CNN, RNN, ML etc.)
 - Large Language Models (Words, sentences and attention)



The screenshot shows a chat window titled "ChatGPT 4o". The user's question is: "Aus wievielen Zeichen besteht der Satz: 'hallo wie gehts ?'". The AI's response is: "Der Satz 'hallo wie gehts ?' besteht aus **18 Zeichen**. Hier ist die Aufteilung:" followed by a bulleted list: "hallo": 5 Zeichen, " " (Leerzeichen): 1 Zeichen, "wie": 3 Zeichen, " " (Leerzeichen): 1 Zeichen, "gehts": 5 Zeichen, " " (Leerzeichen): 1 Zeichen, "?": 1 Zeichen. The final line states: "Zusammen: 5 + 1 + 3 + 1 + 5 + 1 + 1 = 18." There are also icons for share, copy, and other actions at the bottom.

Combination of AI and Blockchain Tech 1

The Austrian „Air Quality Chain“

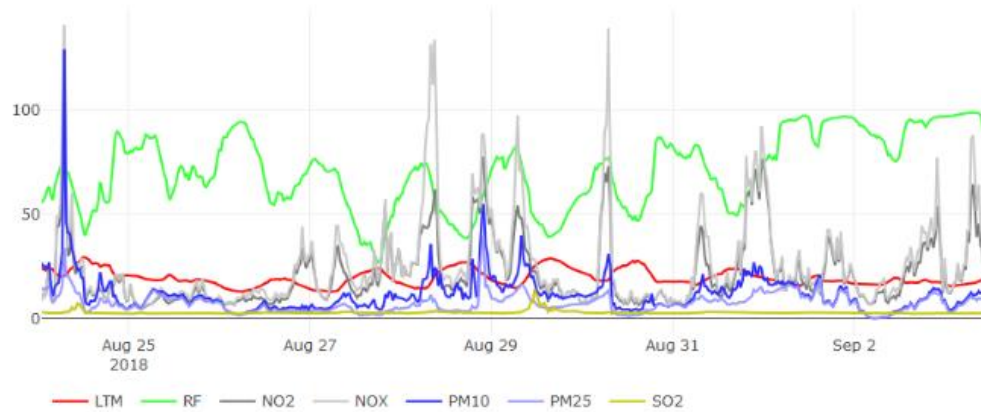
AQC (Air Quality Chain) Testsystem: Messdaten Wien

Kurzbeschreibung

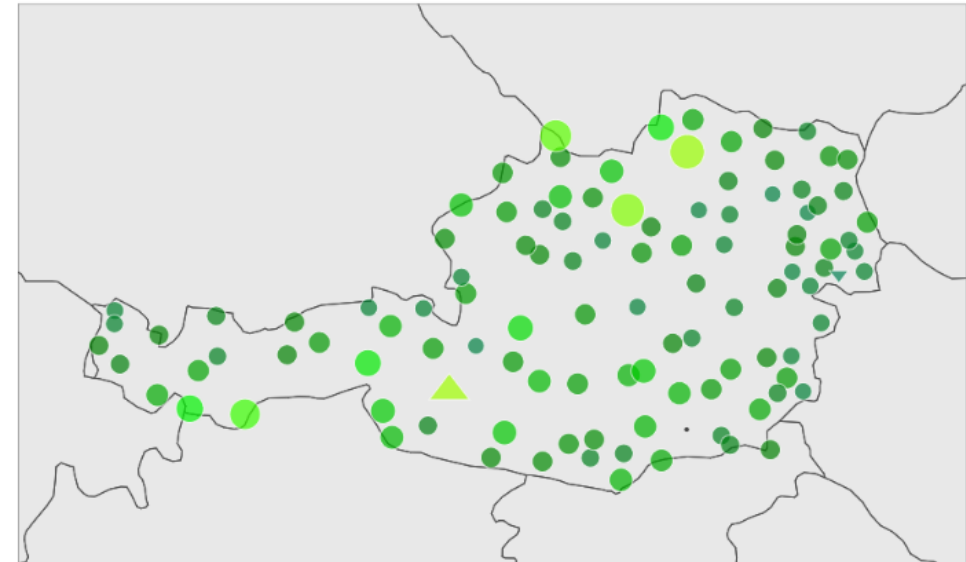
Stationen: STEF | TAB | AKA | AKC | BELG | LAA | (KE) | A23 | GAUD | MBA | KEND | SCHA | JAEG | ZA | FLO | LOB | STAD | LIES | BC21 |



Kaiser-Ebersdorf (KE)



Ladezeit Daten aus AQC-Blockchain: 42.4 ms.



Combination of AI and Blockchain Tech 2

Interacting with „AQC“ using AI

Question: Tell us about the existing dataset you are working with

```
RangeIndex: 1682693 entries, 0 to 1682692
Data columns (total 13 columns):
#   Column                               Non-Null Count  Dtype
---  ---                               -
0   Station                               1682469 non-null object
1   Timestamp                             1682693 non-null object
2   Air temperature                       632343 non-null float64
3   Carbon monoxide                      265084 non-null float64
4   Fine particles medium                 1127068 non-null float64
5   Fine particles small                  1129326 non-null float64
6   Humidity                              635715 non-null float64
7   Nitrogen dioxide                     1410597 non-null float64
8   Nitrogen oxide                       1410932 non-null float64
9   Ozone                                 437321 non-null float64
10  Sulfur dioxide                       533770 non-null float64
11  Wind direction                       1055100 non-null float64
12  Windspeed                            1051086 non-null float64
```

Answer:

Question: Windmills need a lot of wind Close to which Station should we build a windmill and why ?

```
We should build a windmill close to the Hermannskogel Station, as it has the highest windspeed of 81.21.
```

Answer:

Question: what is the most interesting field for you and explain why?

```
The most interesting field for me is Air temperature because it has the most data points and it is the most relevant to our daily lives.
```

Answer:

It is actually possible to talk to a blockchain in a natural language

AI can be misused as well

Every technology can be used in a positive or negative way

- DeepFakes
- Automated Disinformation
- Surveillance Overreach

Tax authorities discover 120,000 undeclared swimming pools in France

Aerial photography and artificial intelligence were used to help identify homeowners who had not declared their swimming pools



Aerial shots enable authorities to detect completed pools that have not been declared for tax purposes Ally Foster / Shutterstock

Source <https://connexionfrance.com>

AI can be misused as well - DeepFakes

Deepfakes, created using AI and machine learning techniques, involve the manipulation or generation of visual and audio content that convincingly imitates real people.



Illustration 1: Barack Obama - DeepFake - impersonated

Use of Blockchain Tech to counter DeepFakes 1

Blockchain Notarization can be an effective tool to combat this issue by providing a way to verify the authenticity of digital media. Here's how blockchain notarization can help defeat DeepFakes.

- Immutable Records
- Decentralized- and Real-time Verification
- Provenance Tracking



Illustration 2: Blockchains are immutable

The perfect attributes to identify any type of „Fake“

Use of Blockchain Tech to counter DeepFakes 2

How Blockchain Certification/Notarization can combat Deep Fakes



Illustration 2: Using Blockchain Certification/Notarization to counter DeepFakes

QA

Thank You!