





**IHR ZENTRUM FÜR KI UND
SOFTWARE-ENTWICKLUNG**

MAKING SUSTAINABILITY PROFITABLE THROUGH DIGITAL TRANSFORMATION

Why How What

STRG.

- ❑ Forschungsbasierte KI-Entwicklung
- ❑ Datengestützte Automatisierung
- ❑ Semantische Inhaltsanalyse
- ❑ Predictive Analytics
- ❑ Cloud Computing

2003: Gründung der STRG.AT

2004: Semantisches Content Framework

2006: Erste internationale Kunden

2008: spunQ3 - semantisches CMS (NN)

2009: Tageszeitungen in Österreich

2014: STRG.matrix (Neural Network)

2016: FFG STRG.behave

2018: Forecasting Modelle

2021: FFG STRG.agents

2023: Risk Minimization

2024: Digital Control Center

2025: Causal #AI

VERHALTENSÖKONOMIE



Generierung und Nutzung User-Daten in einem geschlossenen Eco-System.

SYNTHETIC DATA



Deep Reinforcement Learning, um die Simulation mit Virtual Agents zu ermöglichen.

#AI FORSCHUNG



Aktive Forschungsprojekte / internationale Kooperation mit Universitäten & Partnern

IMPACT



Datenwissenschaften in der Industrie.
Risk Minimization

GenAI PRODUKT



Launch einer neuen Generativen Software KI Lösung für den DACH-Markt.

Adaptive #AI



Datenwissenschaft.
Predictive Analytics.

UND...

30

MITARBEITER

08

NATIONALITÄTEN

10

SERVICES

550+

PROJEKTE

20

JAHRE

05

TEAMS

12

BACKEND
DEVELOPER

200+

KUNDEN

13

FRONTEND
DEVELOPER

HQ



Wien, AT

Partner



Dubai, VAE | Košice, SWK | Warschau, PL

Predictive Maintenance

AM BEISPIEL EXTRUDER ANLAGEN



Reactive Maintenance



Preventive Maintenance

Predictive Maintenance

Computerized Maintenance Management (CMMS)

Risk Minimization Framework

Causal AI (Correlation vs Causality)

Wissen bei „alten“
Kollegen

Ausfallzeiten
verhindern

Stillstand zum
schlechtesten
Zeitpunkt

Hohe Komplexität

Kausale
Zusammenhänge
erkennen

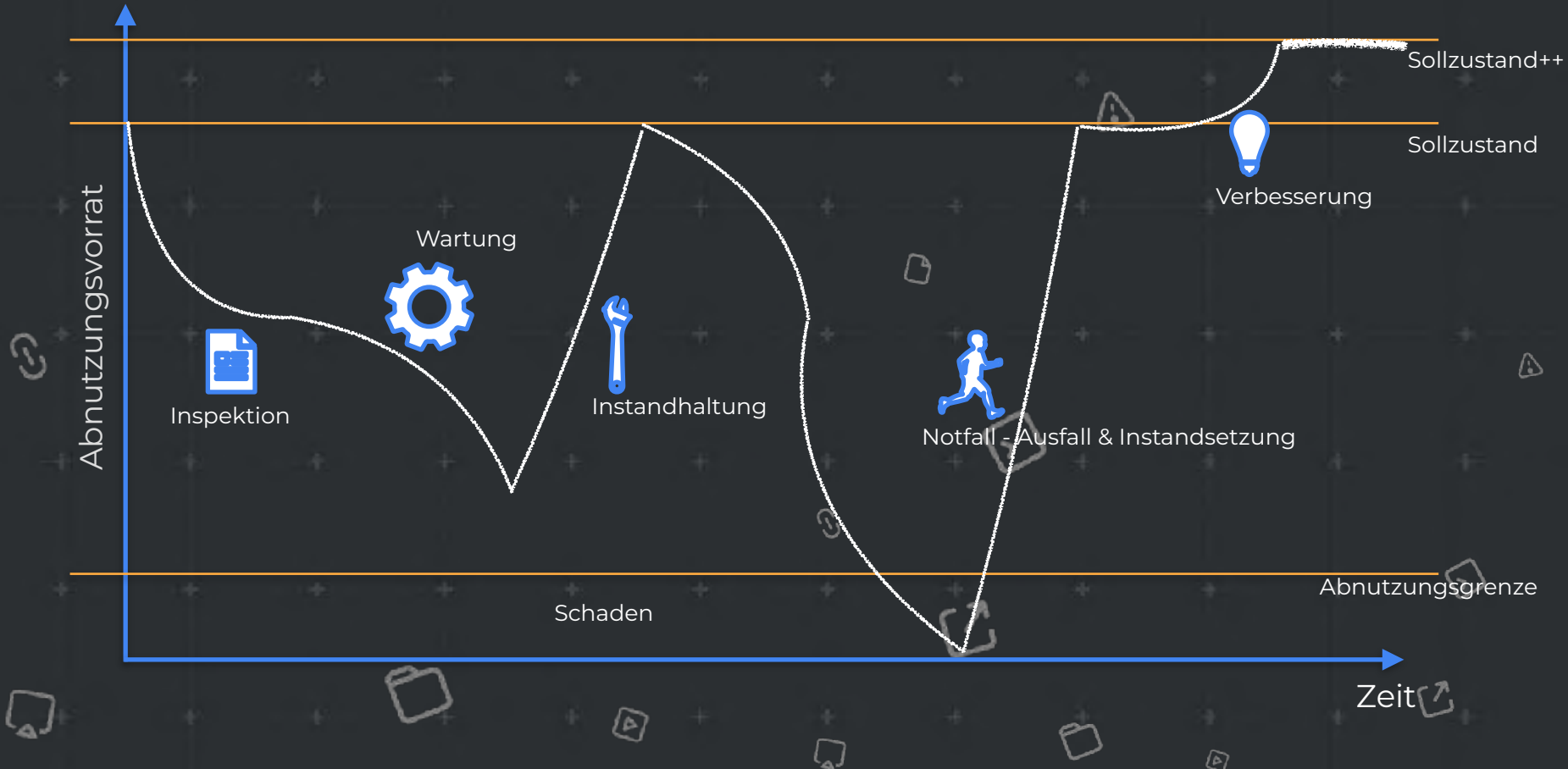
Historische Daten
nutzen

Wartungsintervalle
verlängern

Wartungsintervalle
verlängern

Kausalitäten als Grundlage sind falsch

Instandhaltungsarten



Embrace
the
unknown.

FTSG

Think big.
Then think
bigger!

Foresight
for all.

Every
problem
is a
puzzle.

Expand
your
comfort
zone.

Condition Monitoring



Workflow at a Glance

Acquire Data

Preprocess Data

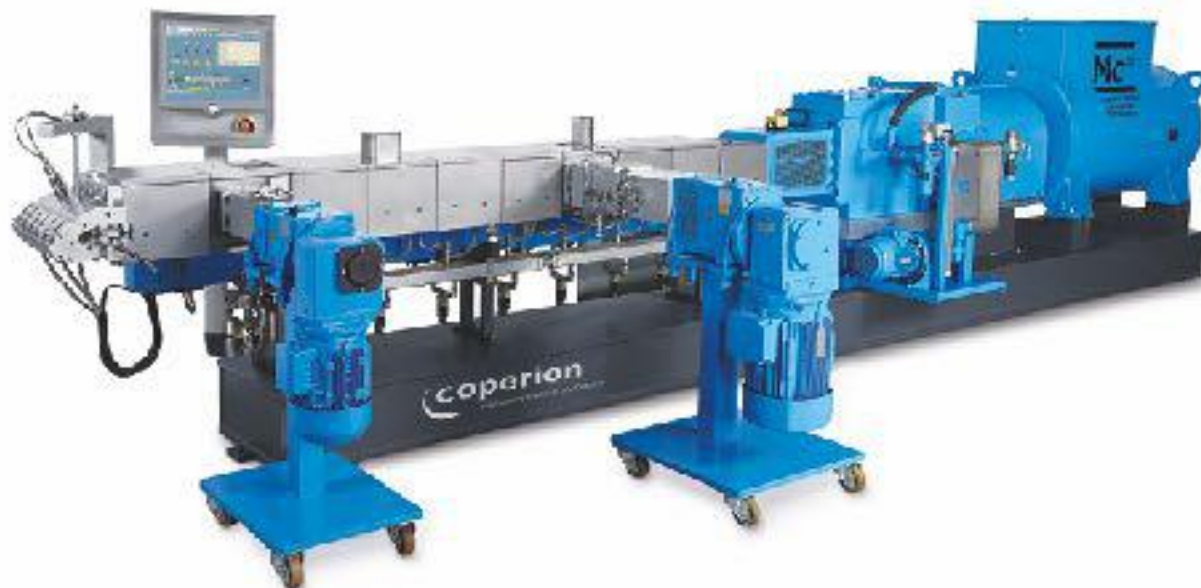
Identify Condition Indicators

Train Modell

Deploy and Integrate



Sensor Data Extruder



Collect Data

Temperature 

Flow

Pressure 





Bildgebende und physische Verfahren

Farbwerte

spezifisches Gewicht

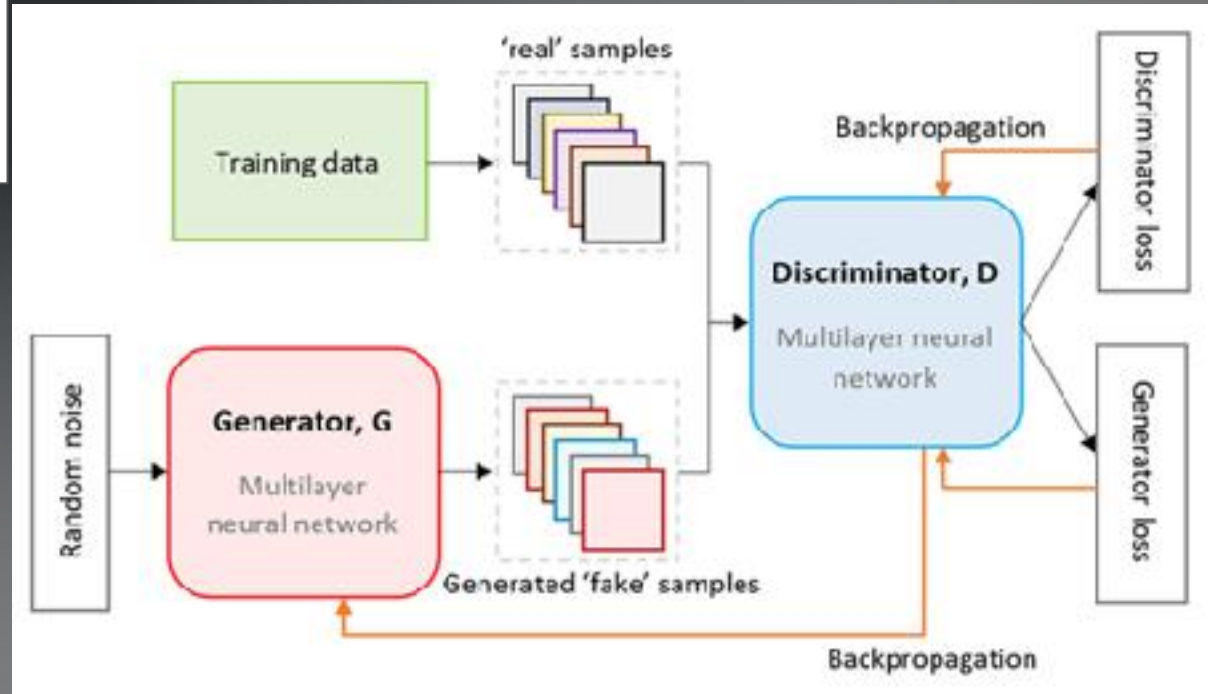
Viskosität

...

Synthetische Daten

Simulation

Reinforcement
Learning



International Journal of Population Data Science

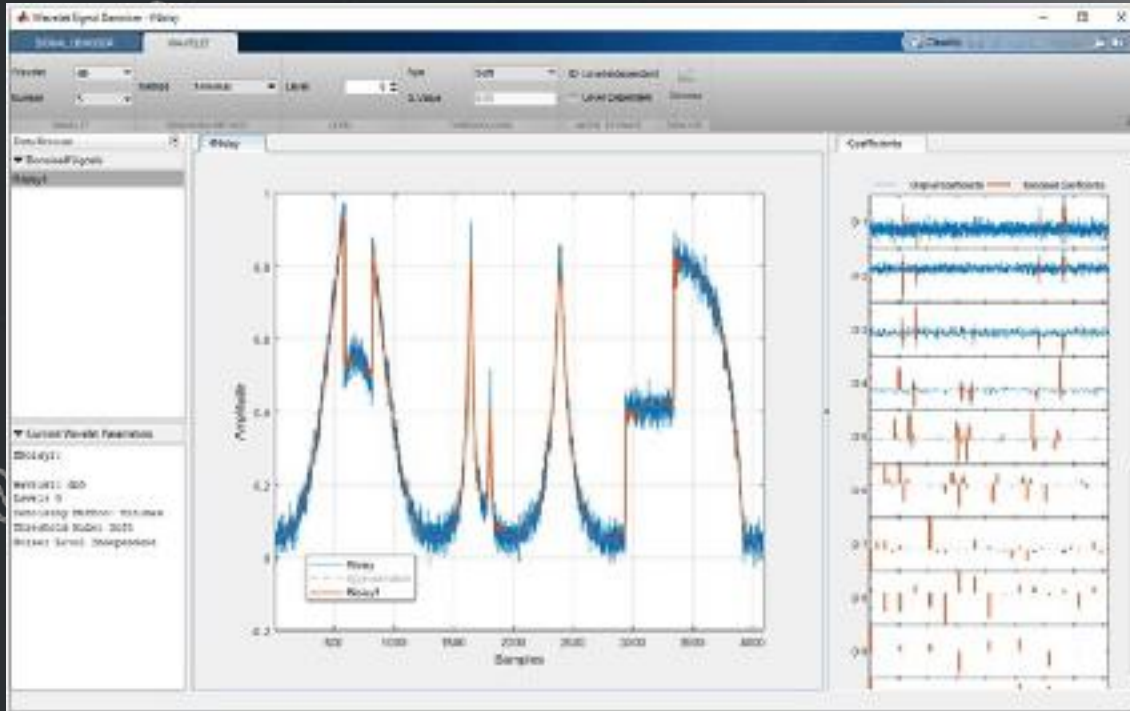
Preprocess with MATLAB

Reduktion von Dimensionen

Angleichung von Frequenzen

Simplifizierungen

UND...



Beispiel mit 15 Sensoren

$$2^{15}$$

32.768 Kombinationen

$$3^{15}$$

14.348.907 Kombinationen

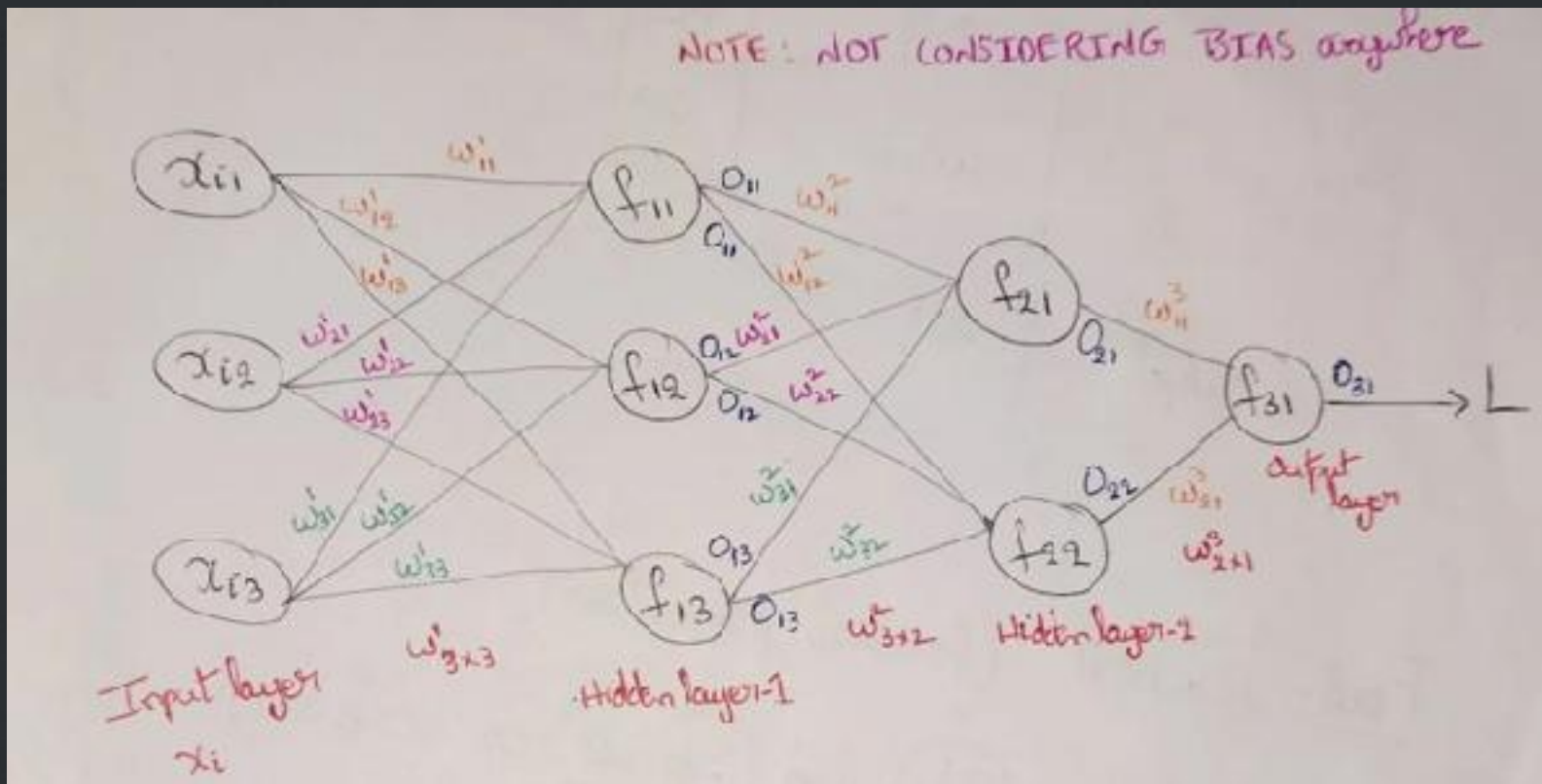
$$5^{15}$$

30.517.578.125 Kombinationen

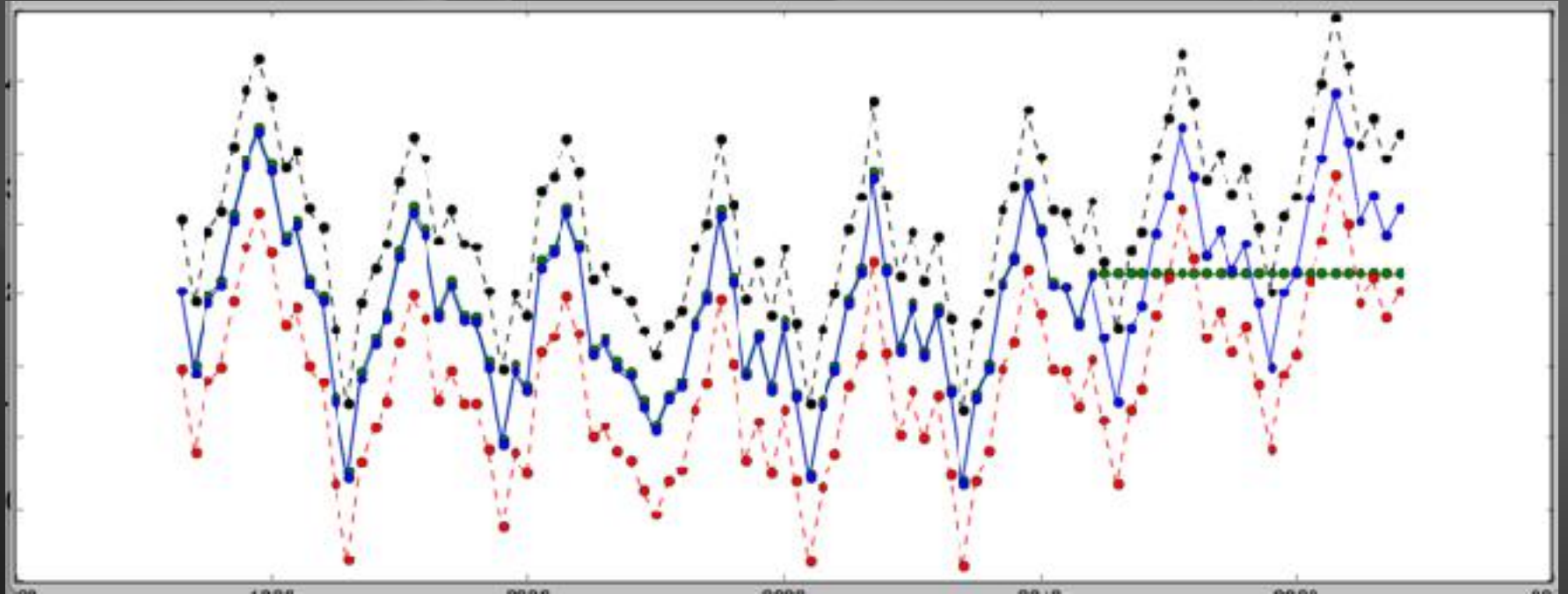
$$15!$$

1.310.000.000.000 Kombinationen

Neural Network & Backpropagation



Holt Winters Verfahren



Long-Short-Term-Memory (LSTM))



all models are wrong
but some are useful

Forecasts

Evaluation results:

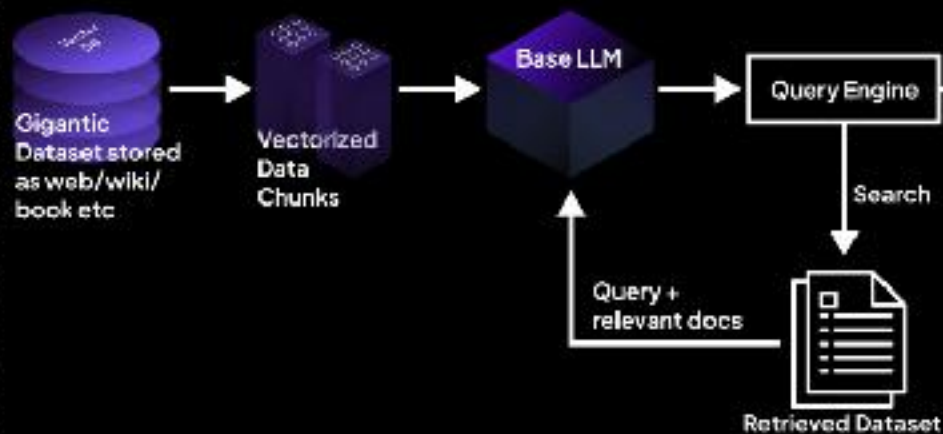
Metric results	
MAE	9,726.9885
RMSE	12,217.5978
MAPE	338.1567



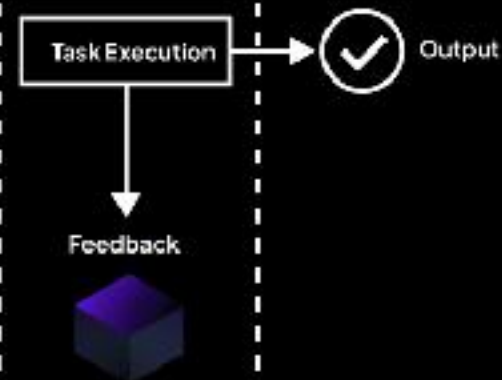
PREDICT THE FUTURE

Retrieval-Augmented Generation

RAG



ACTION



DIGITAL TWINS



RISK MINIMIZATION



CAUSAL #AI



Wahrscheinlichkeitsrechnung

Digital Twin - WTF

Digitale Abbildung der gesamten Anlage



Darstellung verschiedener Szenarien

Simulation mit veränderbaren Attributen

Interventionen

Risk Minimization Framework

Causal AI (Correlation vs Causality)

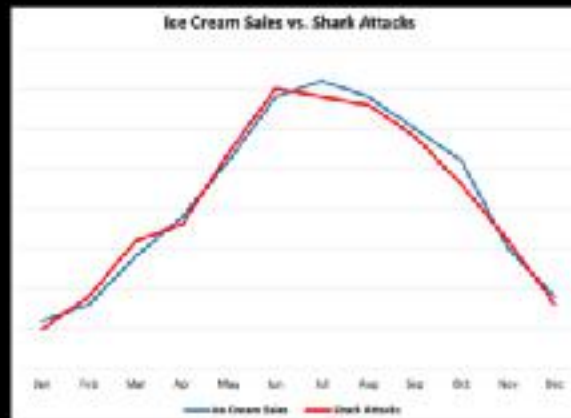


Ice cream vs Shark Attacks

Client Explanation: What is Causal Modeling?

Causal modelling is a powerful AI approach that helps us uncover true cause-and-effect relationships, as opposed to just measured correlations, between attributes in a category.

Practically speaking, this is what ultimately informs our understanding of the role of social and environmental causes in driving brand choice, and therefore helping build our understanding of the value in the brand pursuing social cause marketing.





Causal Ladder

Counterfactuals

"What if?"

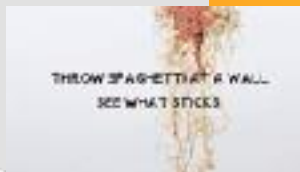
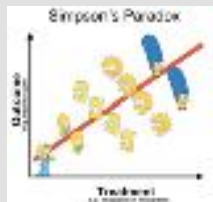
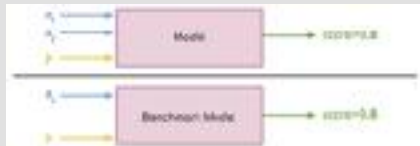
Structural Causal Models (SCMs)

The holy grail of causality

Interventions

RCTs, AB/Tests,

do-algebra on observational data



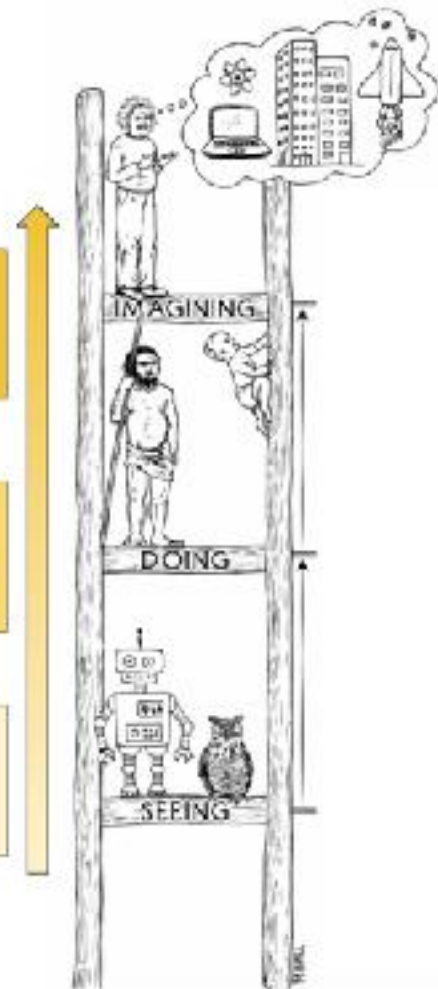
Causal Inference for
individuals by
counterfactuals

Causal Inference for
cohorts by interventions

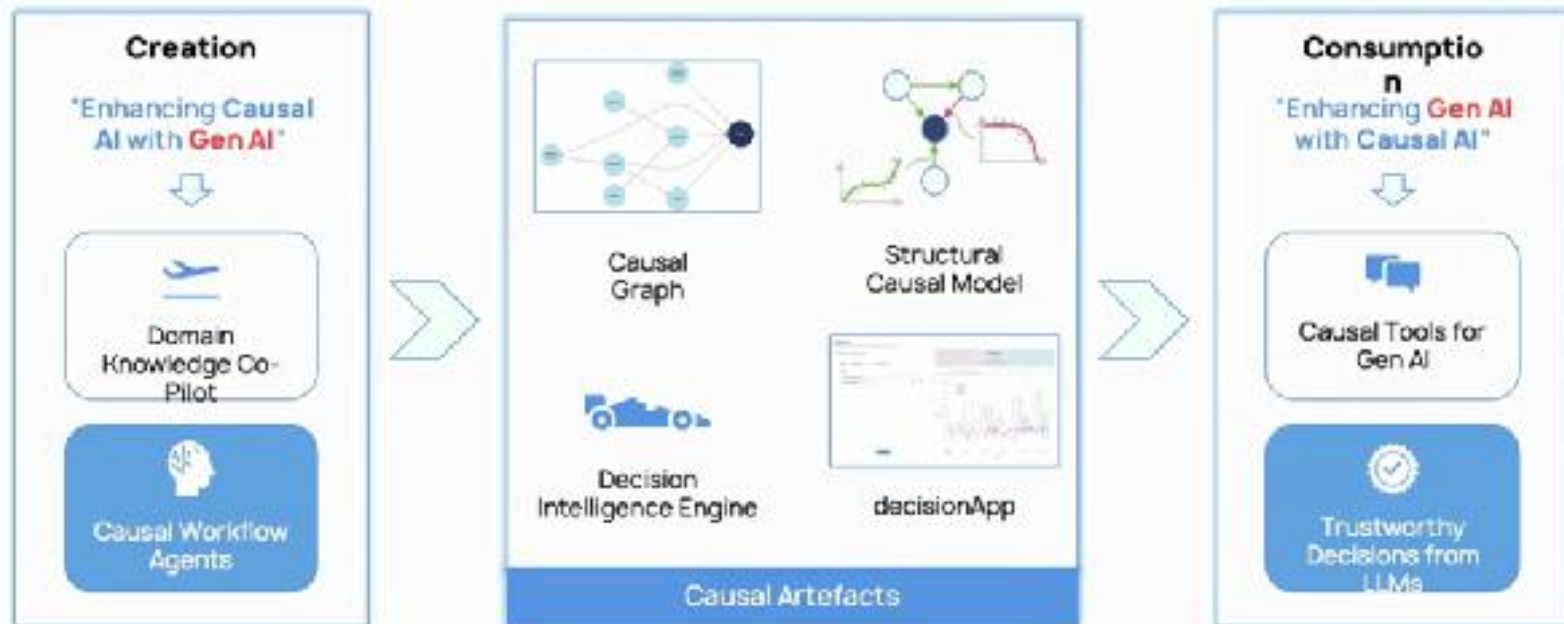
Correlations

- Basic Statistics
- Machine Learning

"Spaghetti on the wall algorithms"



Bringing Causal AI and Gen AI Together





#AI Modells

Model	Event Detection Rate	False Alarm Ratio	Total True Events	Correctly Predicted Events	MASE	RMSSE
edids	0.698	0.395	1.647	1.404	1.944	1.026
chronos	0.494	0.054	1.647	0.696	1.716	1.025
croston	0.683	0.449	1.647	1.434	2.311	1.111
Holts-Winters	0.616	0.474	1.647	1.359	2.382	1.197
Last qt. avg	0.668	0.27	1.647	1.246	1.997	1.061
Normal Sampling (last qt)	0.626	0.296	1.647	1.207	2.336	1.274
LSTM	0.572	0.122	1.647	0.964	1.806	1.076

Was wir tun können

Datenzugriff, Normalisierung und Verarbeitung



Conditions erarbeiten und Modelle trainieren

Simulations-Modelle entwickeln

Risikominimierung und Kausalitäten

Visualisierung der Ergebnisse

Ausgaben und Erklärungen in natürlicher Sprache

STRG. INDUSTRIEKUNDEN



OAMTC

THE HAIN
CELESTIAL
GROUP



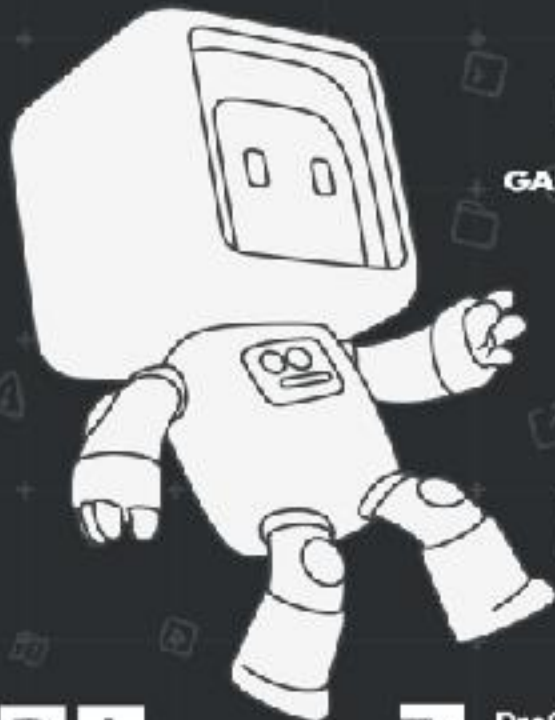
Red Bull

feibra

Bank Austria
Member of **UniCredit**

INTERCITY REAL
ESTATE
SERVICES

B D A



GABRIEL-CHEMIE

APA REGIOSPORTS

UBIMET



HITRADIO Ö3

BELIMO

OGB



ProSiebenSat.1
Media SE

**Inter
wetten**

freizeit
KURIER

STRG. MEDIENKUNDEN

WEIDWERK 

NÖN

PAYBACK 

DIE FURCHE

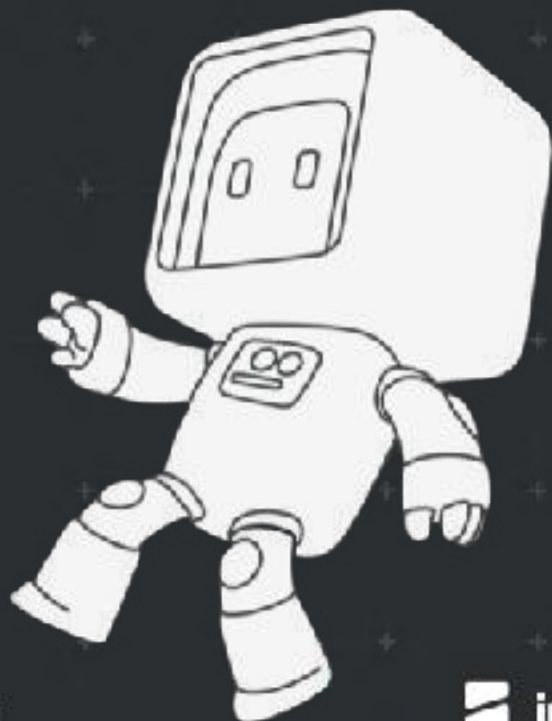
OieZ

oe24

 wetter.at

rtv media group

KURIER



weekend.at

futurezone
TECHNOLOGY NEWS

Salzburger Nachrichten

sport1

MADONNA

 NetDoktor

 APOVERLAG

wohnet
WO UND WIE WOHNEN



inFranken.de

(STYRIA

ÖSTERREICH.at



DANKE FÜR IHRE AUFMERKSAMKEIT

**WIR WISSEN. KOMPLEXE LÖSUNGEN
ERFORDERN AUSFÜHRLICHE BERATUNG.**

WWW.STRG.AT



Jürgen Schmidt
Founder & CEO
STRG.AT

juergen.schmidt@strg.at
+43 699 1 7777 165

