

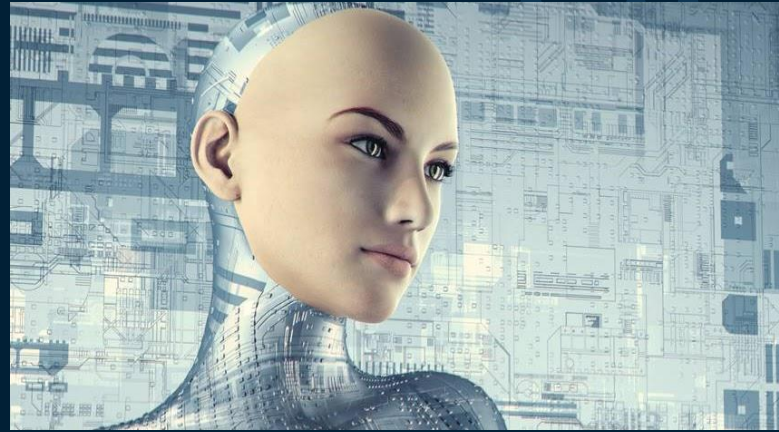
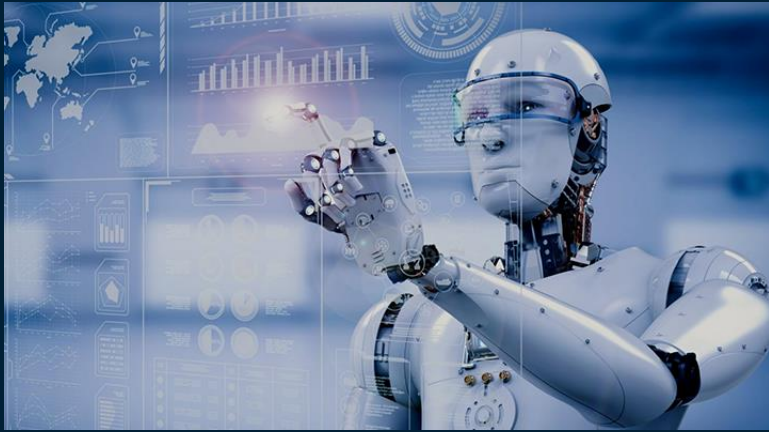


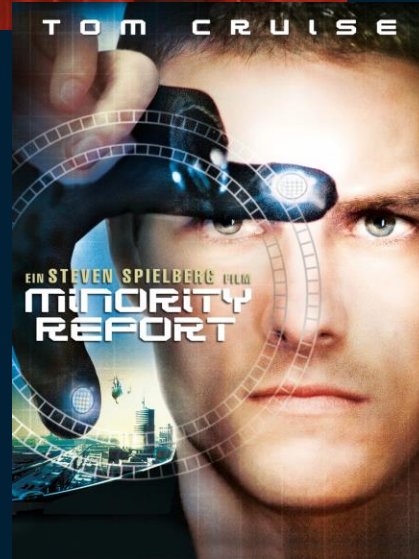
KI in der Praxis - Status und Perspektiven.

Dr. Thomas Keil, Director Marketing DACH, SAS

14.6.2023, SNP Transformation World, Heidelberg







Aesthetic Styles

Prompt: robot head,[STYLE]



Abstract



Acid Pixie



African Futurism



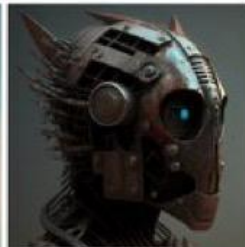
African Victorian



Aggressive



Alien



Amazofuturism



Americana



Ancient Egypt



Animanga



Anime



Antiqued Bronze



Antique Grunge



Antiqued



Arcade

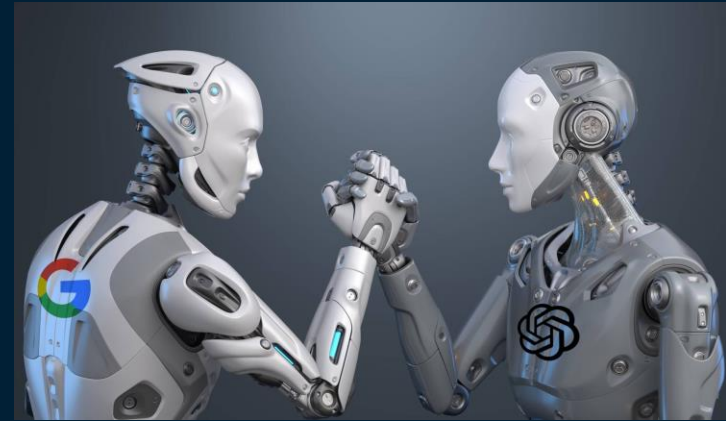


8 GENIALE KI-FOTO-TOOLS





UAL





[12.3.2023: Tweet von Christian Müller](#)

Spracherkennung überall

Laut Google sind 20 % der Suchanfragen in Googles mobiler App und auf Android-Geräten Sprachsuchen. Der Sprachassistent von Google ist mittlerweile auf mehr als 400 Millionen Geräten verfügbar.

[Quelle: Morder Intelligence](#)

Alexa & Co.: Eine Prognose zeigt, dass die Anzahl der weltweit verwendeten Sprachassistenten im Jahr 2024 bei bis zu 8,4 Milliarden liegen wird.

[Quelle: Statista](#)



Der iPhone-Moment der KI Technologie

VW, BMW, MERCEDES

KI könnte Autohersteller bei der Lösung des Software-Problems helfen

Die deutschen Autobauer tun sich mit der Softwareentwicklung schwer. Sie setzen deswegen große Hoffnungen in die neuen KI-Sprachmodelle.

Franz Hubik Roman Tyborski

11.06.2023 - 13:36 Uhr • Kommentieren • Jetzt teilen



Software-Entwicklung in der Autoindustrie
Autobauer wie Volkswagen erhoffen sich eine höhere Produktivität in der Softwareentwicklung mithilfe des Einsatzes generativer KI.
(Foto: Volkswagen AG)

- BMW nutzt KI-Sprachmodelle für sein digitales Benutzerhandbuch, den „Car Expert“: „Er findet die richtigen Stellen und sucht sich daraus die Antwort, fasst diese intelligent zusammen und macht sie in menschenähnlichen Dialogen gut zugänglich.“
- Der Dax-Konzern experimentiert auch mit bilderzeugender KI. Diese könnte Design-Prozesse und Fahrzeug-Entwicklungsprozesse unterstützen.
- VW: Durch KI mehr Code mit derselben Anzahl an Entwicklern
- Trainieren von Modellen: Ein Bereich wäre das sogenannte Labeln von Rohdaten

[11.6.2023: KI könnte VW, BMW und Mercedes bei der Lösung des Software-Problems helfen \(handelsblatt.com\)](https://www.handelsblatt.com/technologie/kuenstliche-intelligenz/kuenstliche-intelligenz-wird-in-der-automobilindustrie-genehmigt-11777777.html)

7%

Senkung von
Energiekosten bei
einem
Baustoffhersteller

30%

Reduktion der
ungeplanten
Ausfallzeiten bei
einem
Papierhersteller

4%

Mehr Umsatz
durch Supply
Chain Intelligence

SAS announces \$1 Billion investment in Artificial Intelligence (AI)

Commitment includes new advanced AI technologies and solutions & AI Accelerator Program offering skills and support



NEWS PROVIDED BY
SAS →
17 Mar, 2019, 23:50 ET

SAS commits \$1B to AI-powered industry solutions

Multiyear investment will fuel cloud-first solutions across numerous industries

SAS INNOVATE, ORLANDO, FLA. (May 09, 2023)

SAS, the leader in analytics, will invest \$1 billion over the next three years to further develop advanced analytics solutions targeted at the unique needs of specific industries. In banking, government, insurance, health care, retail, manufacturing, energy, telecom/media and more, SAS will build upon its decadeslong focus on providing tailored solutions to industry challenges. This industry commitment and the rapid time-to-value these solutions deliver are key SAS differentiators.

All industry solutions will run on SAS' Viya[®], SAS' cloud-native, massively parallel AI and analytics platform.

"Businesses face many challenges, from the threat of economic recession and stressed supply chains to workforce shortages and regulatory changes," said SAS CEO Jim Goodnight. "With insights from industry-focused analytics, resilient organizations can find opportunity in these challenges."

"Through this investment, SAS will continue to support companies using AI, machine learning and advanced analytics to fight fraud, manage risk, better serve customers and citizens, and much more. We remain steadfast in our ongoing commitment to innovation while delivering the market's best analytics."

Editorial contacts:

- SAS Corporate HQ
[Mike Nemecek](#) (919) 531-5140
- SAS Corporate HQ
[Danielle Bates](#) (919) 531-1959



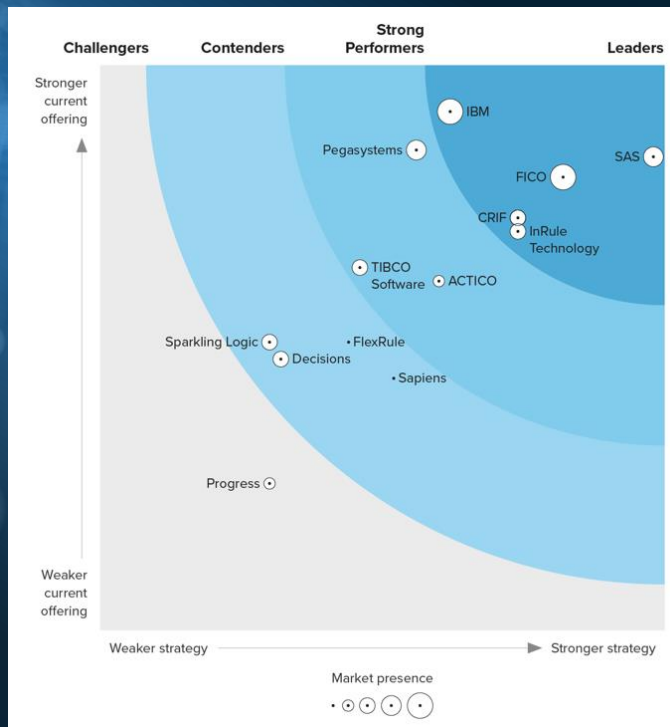
SAS' \$1B investment will build on decades of innovative, industry-tailored solutions.

SAS is a Leader in The Forrester Wave™: AI Decisioning Platforms, Q2 2023

FORRESTER®

The Forrester Wave™: AI Decisioning
Platforms, Q2 2023 ([link](#)).

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SAS is a Leader in The Forrester Wave™:

AI Decisioning Platforms, Q2 2023

FORRESTER®

The Forrester Wave™: AI Decisioning Platforms, Q2 2023 ([link](#)).

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- “SAS’s flagship Viya platform includes beautifully designed interfaces across the entire data-to-decision lifecycle.”
- “SAS seamlessly integrates world-class analytics for decisioning.”
- “Any combination of analytics, machine learning, and optimization can easily be created and used by teams within SAS Intelligent Decisioning.”
- “SAS leverages its already formidable AI capabilities to offer enterprises sophisticated and easy-to-use AI decisioning platforms.”
- “SAS has strengths in comprehensive data capabilities, decision intelligence technologies, user experience, breadth of authoring tools, and ModelOps.”
- “SAS Intelligent Decisioning is a logical fit for existing SAS customers and for new customers that want sophisticated analytics and AI capabilities in a seamless experience.”

Ein Blick unter die Haube

Rechnen mit Wahrscheinlichkeiten

The best thing about AI is its ability to

learn	4.5%
predict	3.5%
make	3.2%
understand	3.1%
do	2.9%

[What Is ChatGPT Doing ... and Why Does It Work?—Stephen Wolfram Writings](#)

0, 1, 2, 3, 4, ...

5, 6 (Reihe, n+1)

DATEN

VORHERSAGE

MODELL

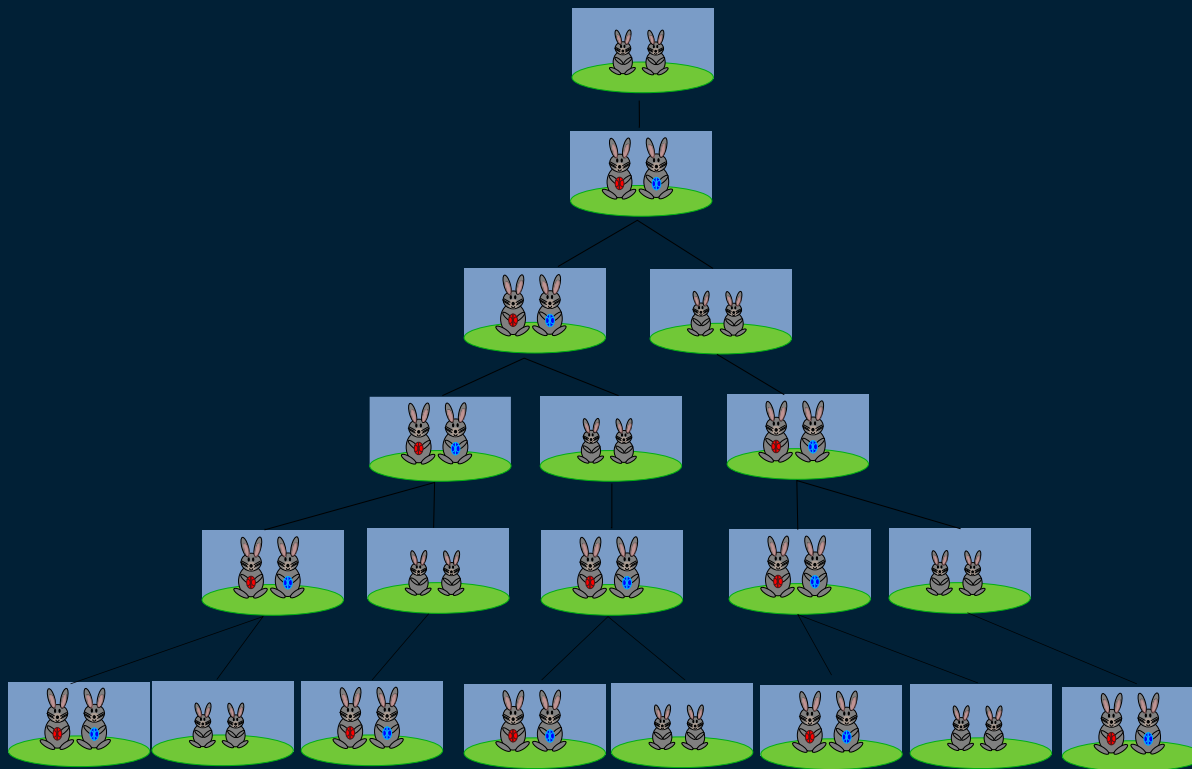
0, 1, 2, 3, 4, ...

5, 6 (Reihe, n+1)

0, 1, 1, 2, 3, 5, 8, 13, ...

21, 34, 55 (Summe der beiden Vorgänger)

Fibonacci-Folgen in der Natur



0, 1, 2, 3, 4, ...

5, 6 (Reihe, $n+1$)

0, 1, 1, 2, 3, 5, 8, 13, ...

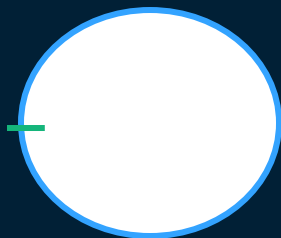
21, 34, 55 (Summe der beiden Vorgänger)

1, 2, 4, 8, 16, ...

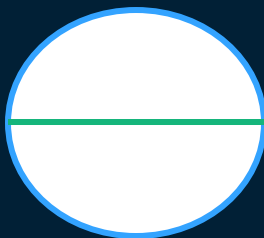
32, 64 (2^n)

1, 2, 4, 8, 16, ...

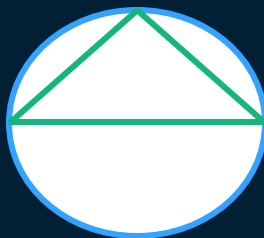
31, 57 (Kreissegmente)



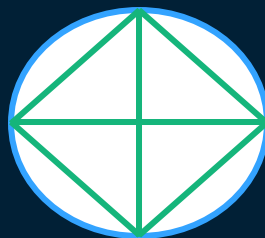
1 Punkt
1 Segment



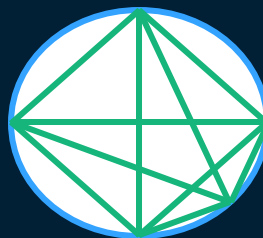
2 Punkte
2 Segmente



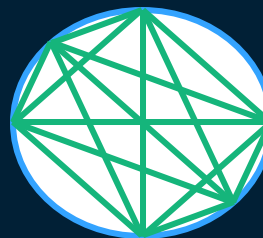
3 Punkte
4 Segmente



4 Punkte
8 Segmente



5 Punkte
16 Segmente



6 Punkte
31 Segmente

0, 1, 2, 3, 4, ...

5, 6 (Reihe, $n+1$)

0, 1, 1, 2, 3, 5, 8, 13, ...

21, 34, 55 (Summe der beiden Vorgänger)

1, 2, 4, 8, 16, ...

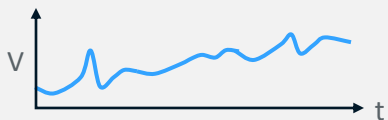
32, 64 (2^n)

1, 2, 4, 8, 16, ...

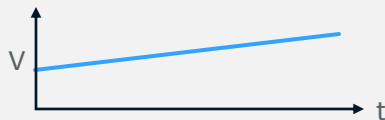
31, 57 (Kreissegmente)

In der Realität: Viele Daten, komplexe Algorithmen

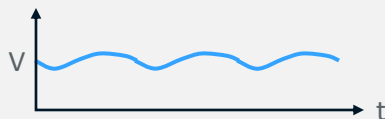
Historische Daten



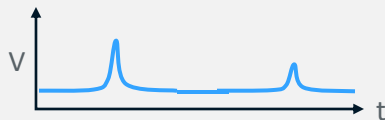
Trend



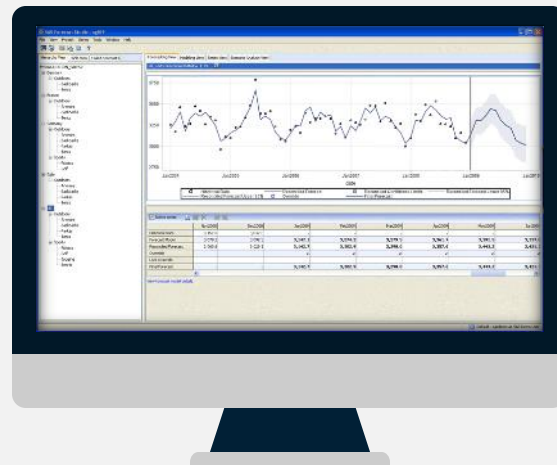
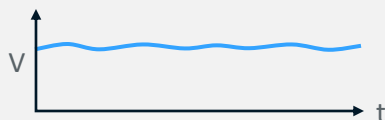
Saisons



Ereignisse (Kalender!)



“noise”



weltweit
Millionen von Positionen

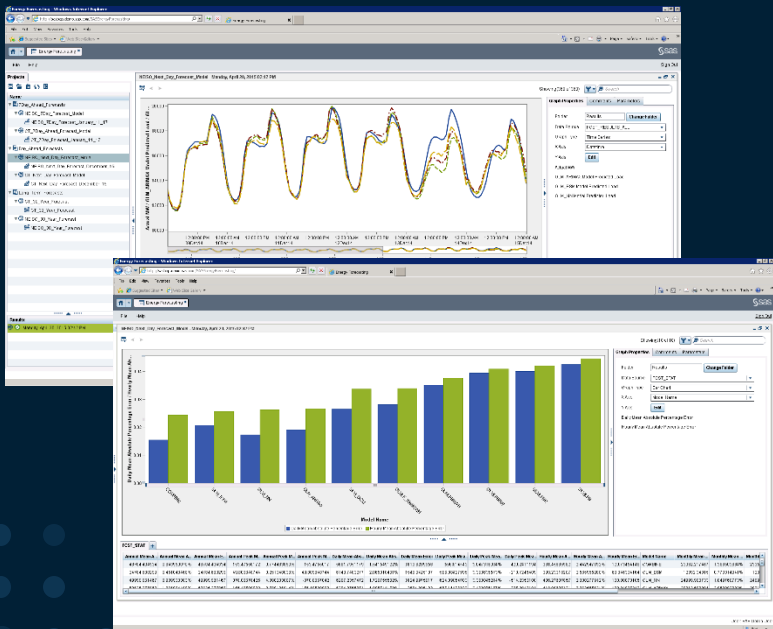
Energieverbrauch & Erzeugung



Energieverbrauch & Erzeugung

SAS Energy Forecasting stellt mehrere Modelle bereit und vergleicht Ergebnisse automatisch

MiMA-Award für
Energie Cost
Optimization für
Wienerberger
7% Einsparungen

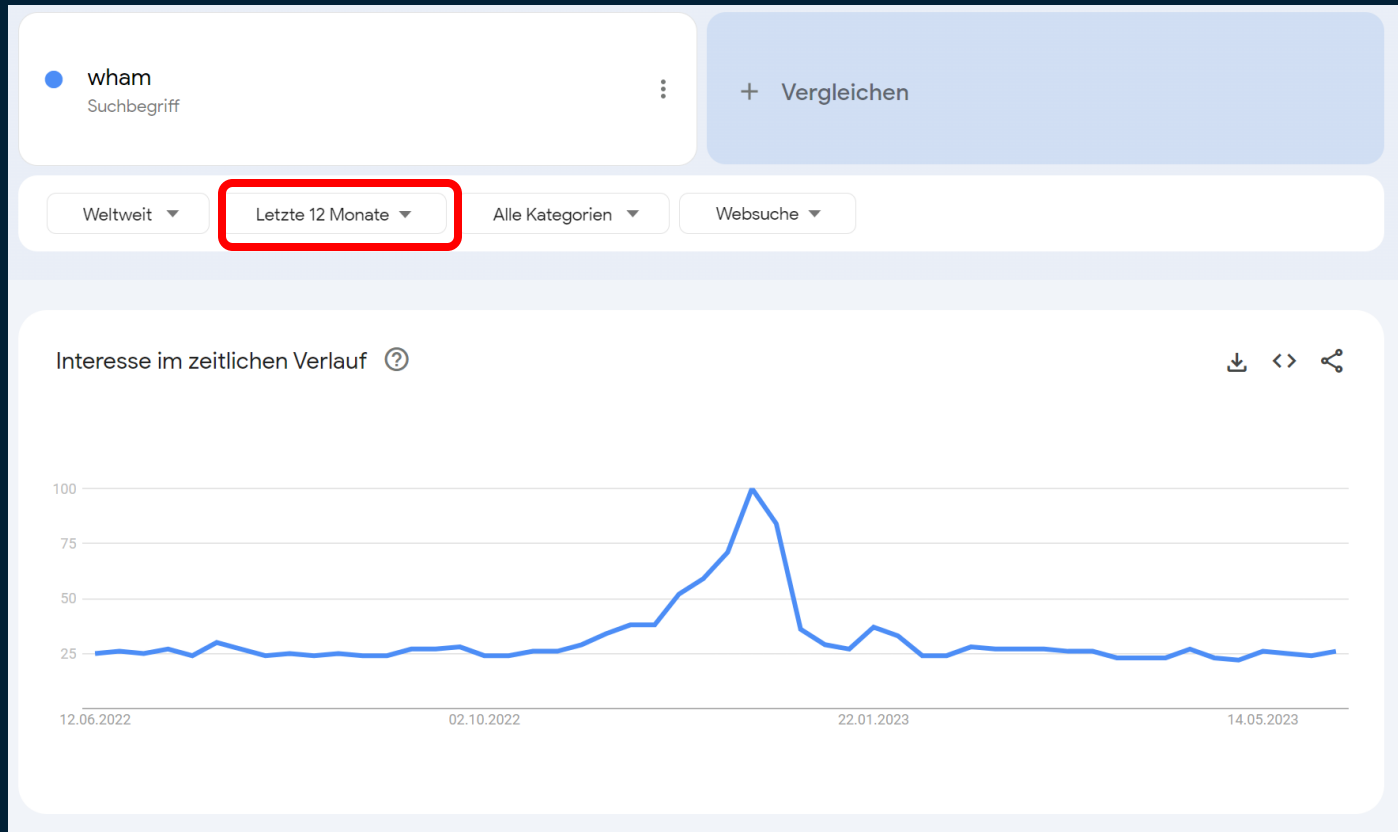


- Naive Model
- Recency Model
- Calendar (Weekend) Model
- Holiday Model
- Weighted Least Squares
- Neural Networks
- Two Stage Models

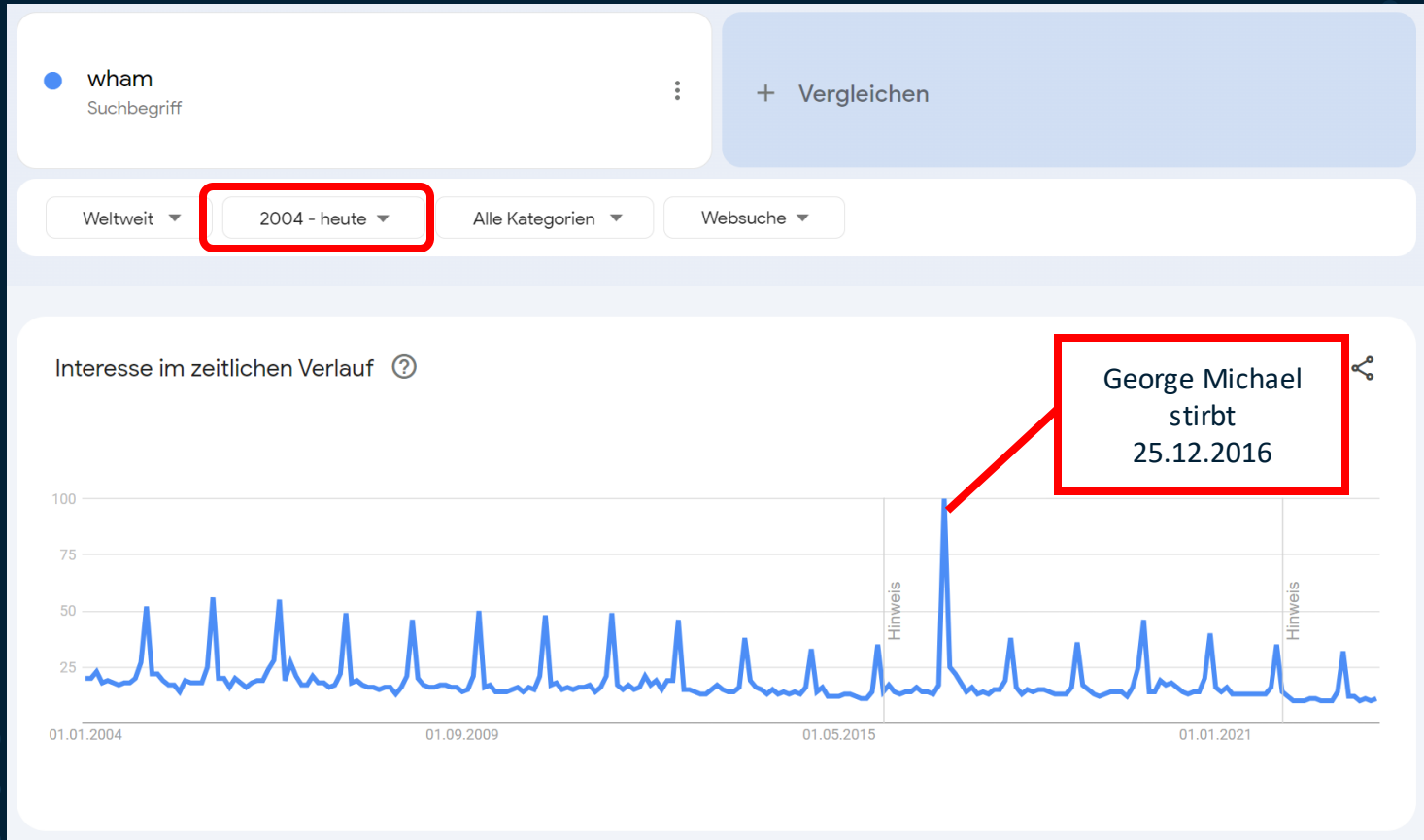


Saving Natural Gas:
Wienerberger setting a new...
Wienerberger AG

Google Trends: „Wham“



Google Trends: „Wham“





Thread



Colin Madland @colinmadland · 19. Sep.

A faculty member has been asking how to stop Zoom from removing his head when he uses a virtual background. We suggested the usual plain background, good lighting etc, but it didn't work. I was in a meeting with him today when I realized why it was happening.



433



28.856



55.486



Colin Madland @colinmadland · 19. Sep.

any guesses?



61



1.191



7.288



Colin Madland @colinmadland · 19. Sep.



31

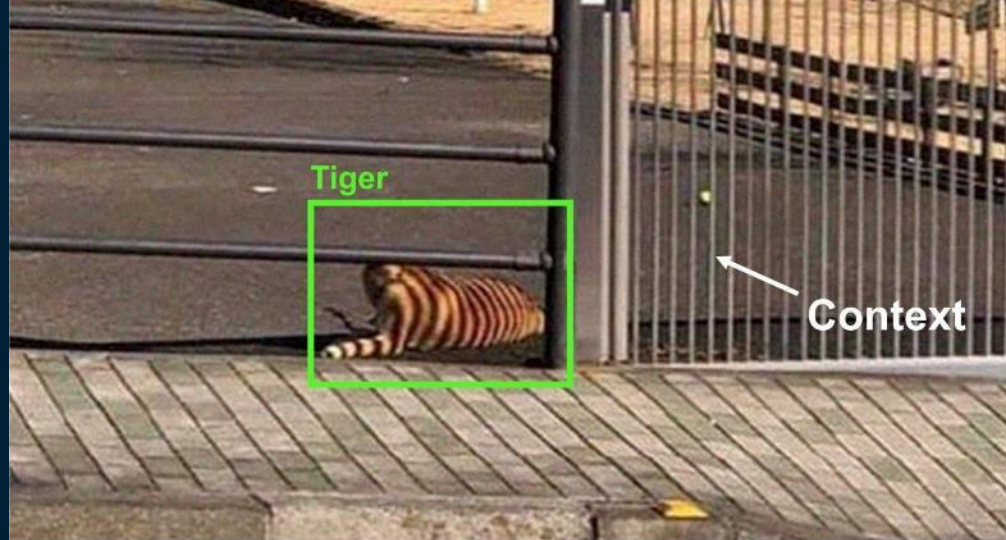


672



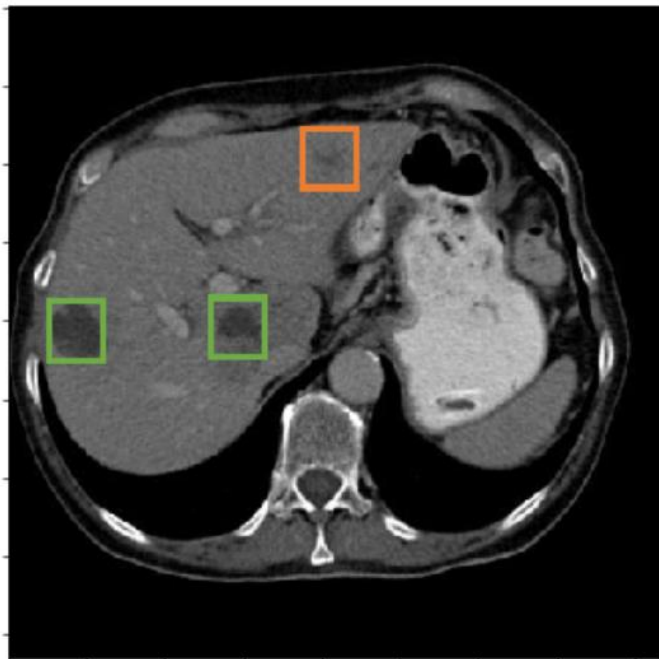
6.093



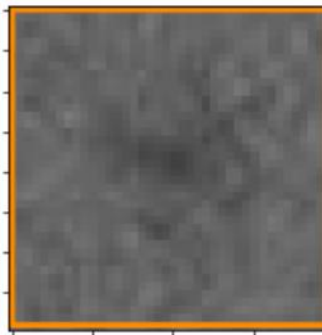


Vertrauen in Vorhersagen

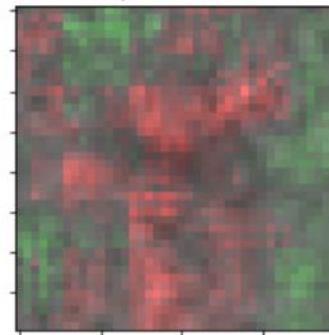
#TrustworthyAI



Potential Lesion



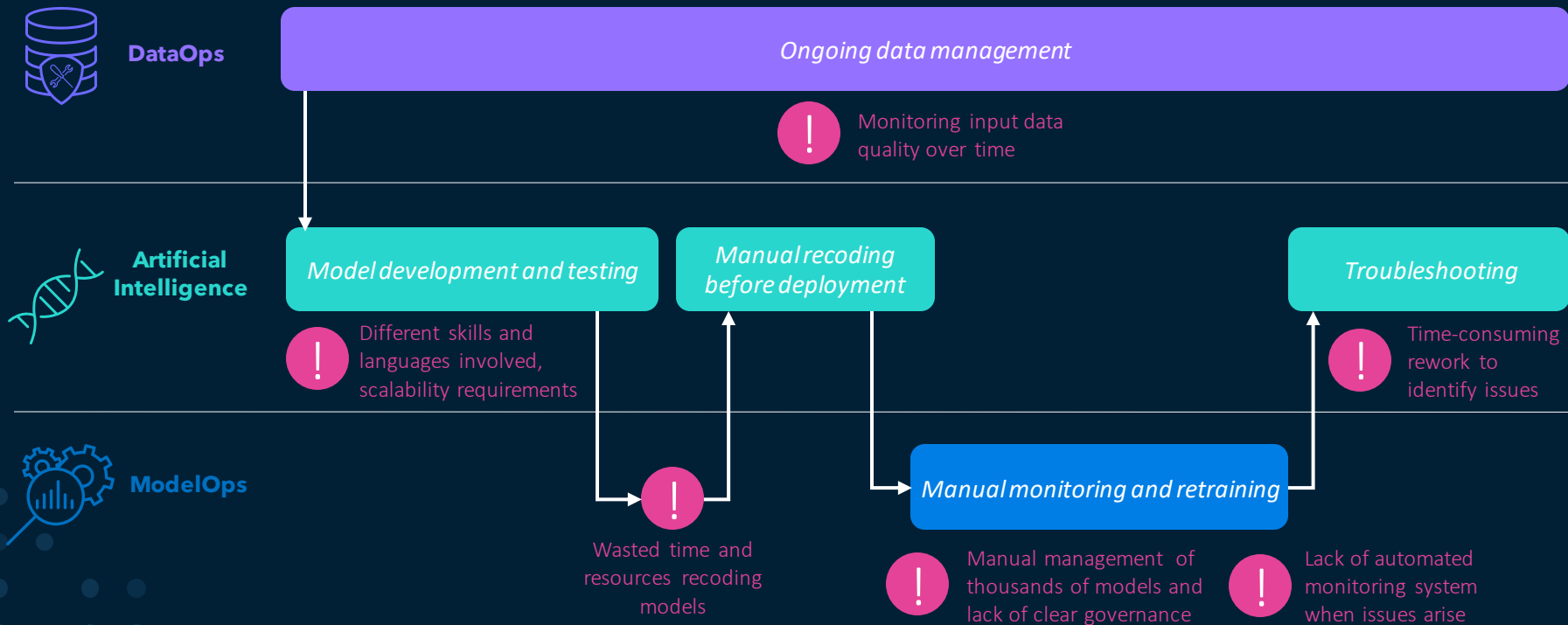
Explanations



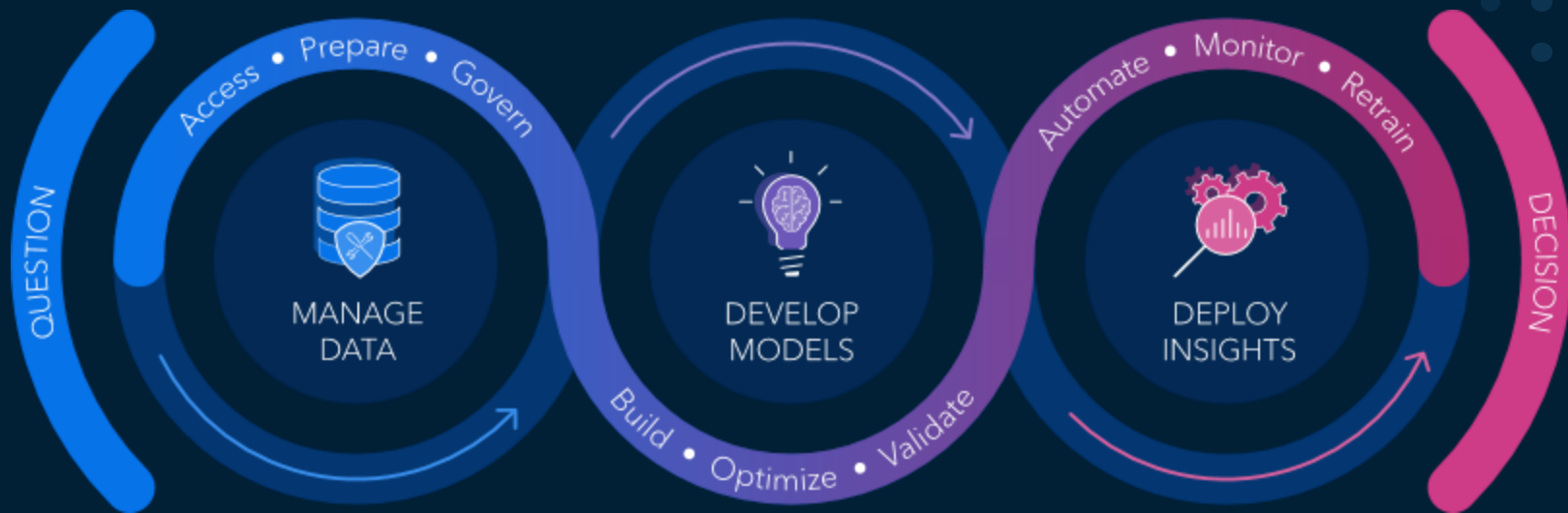
The model has found two lesions with high probabilities (green boxes) and one potential lesion (orange box) from the scan. The potential lesion area and the explanations are shown above. The red pixels in the explanations highlight the area that contributes to the lesion prediction according to the model. The green pixels highlight the area that the model finds unlikely to contain a lesion.

Wie funktioniert KI in der Praxis?

Status Quo: Manuelle Prozesse, kaum Automatisierung



SAS unterstützt den Analytics LifeCycle End-to-End



Modelle schneller
in Produktion –
ohne Neucodierung

Alle Modelle in einem
Tool – egal, ob SAS
oder Open Source

Governance zum
gesamten Prozess für
Nachvollziehbarkeit
und Vertrauen

Schnelle Nutzung
neuer Erkenntnisse
für bessere
Entscheidungen



Modelle schneller in Produktion – ohne Neucodierung

Herausforderung:

Manuelle Prozesse und hoher Personalaufwand

Häufige Änderungen der Infrastruktur (Cloud Provider!)

Das können wir lösen:

Validieren & deployen von Open Source Modellen

Deployment von Modellen im Batch, Real-time, Edge oder Cloud

The screenshot shows the SAS Model Manager interface for a project named 'Customer Churn'. A 'Publish Models' dialog box is open, displaying a table of models to be published:

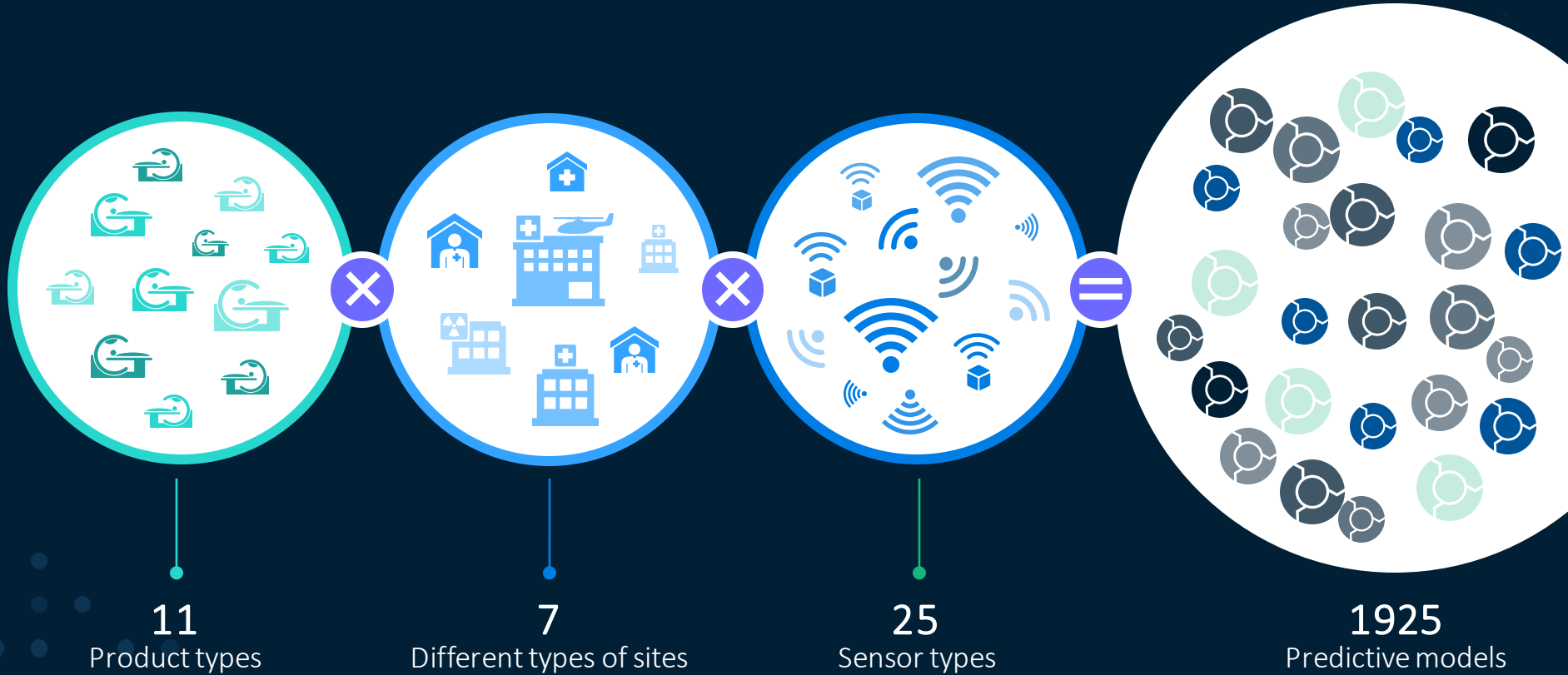
Name	Published Name	Replace
Ensemble (SAS Automatically Generated Pipeline) (1.1)	Ensemble__SAS_Aut	<input type="checkbox"/>
Python_SKLearn_DTree_Churn (1.0)	Python_SKLearn_DTr	<input type="checkbox"/>
R_CustChurn_stepwise_logistic_regression (1.0)	R_CustChurn_stepw	<input type="checkbox"/>

Below the table, there is a 'Destination' dropdown menu with a list of options:

- Amazon Web Services (AWSDemo)
- Amazon Web Services (AWSDemo)
- Amazon Web Services (AWSDemo1)
- Azure (AzureDemo1)
- Azure Machine Learning (AMLDemo)
- Azure Machine Learning (AMLDemoSingleSignOn)
- Azure Machine Learning (AMLTest1)
- CAS (auto_create_001_cas)
- CAS (CAS_MacroAuto_VGASIM)
- CAS (ydb8hbm/cas)
- Git (Git_Destination_Branch_creDomain)
- Git (Git_Destination_Branch)
- Git (Git_Destination_Master_creDomain)
- Git (Git_Destination_Master)
- Git (GitDemoNew)
- Private Docker (PrivateDocker)
- SAS Micro Analytic Service (auto_create_002_mas)
- SAS Micro Analytic Service (maslocal)

The dialog also includes 'Publish' and 'Cancel' buttons.

Modelle: Augen & Ohren einer Organisation





Georgia-Pacific

1.900 models

multiple times a second,
**deploying and
monitoring** each of
them using SAS.





Alle Modelle in einem Tool

Die Herausforderung:

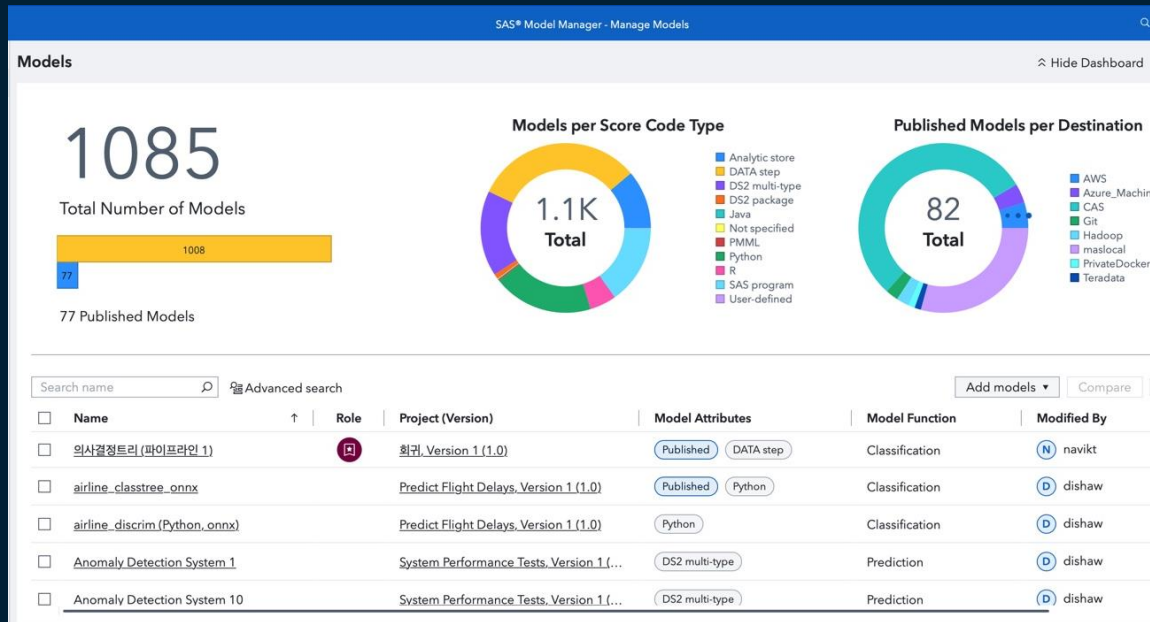
Managing & Monitoring von Modellen wird immer aufwändiger

Viele unterschiedliche Prozesse

Das können wir lösen:

Einheitliches Model Management

- Überwachung von Performance und Training von Modellen





Cleveland Clinic

Clinic **monitors and adjusts models in real time**, to optimize the use of medical resources like ventilators and hospital beds.



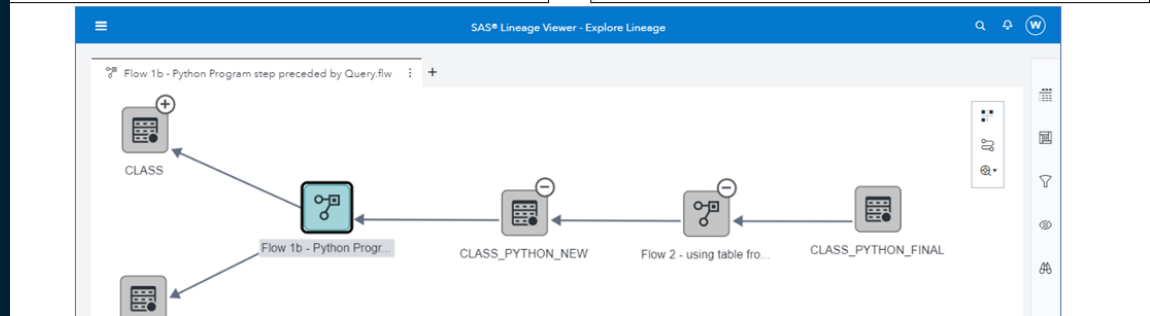
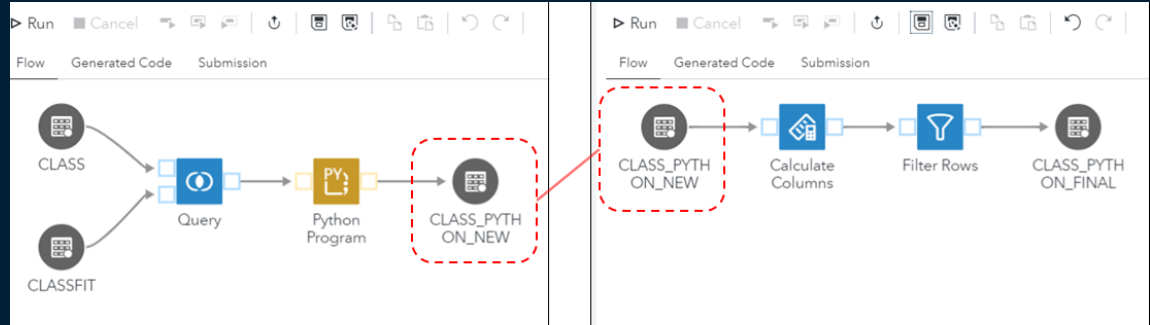


Governance zum gesamten Prozess für mehr Nachvollziehbarkeit

Die Herausforderung:

Model governance to meet stakeholder demands

Lack of collaboration due to siloes



Das können wir lösen:

Auditable process as models change hands

Visibility into model's definition & state promotes trust

Large Medical
University uses
**auditable and
explainable AI** to
improve cancer
screening.

"We needed an explainable model while still maintaining a high level of learning performance. SAS was the most trustworthy solution we found."

Dr. Geert Kazemier





Schnelle Nutzung neuer Erkenntnisse für bessere Entscheidungen

Die Herausforderung:

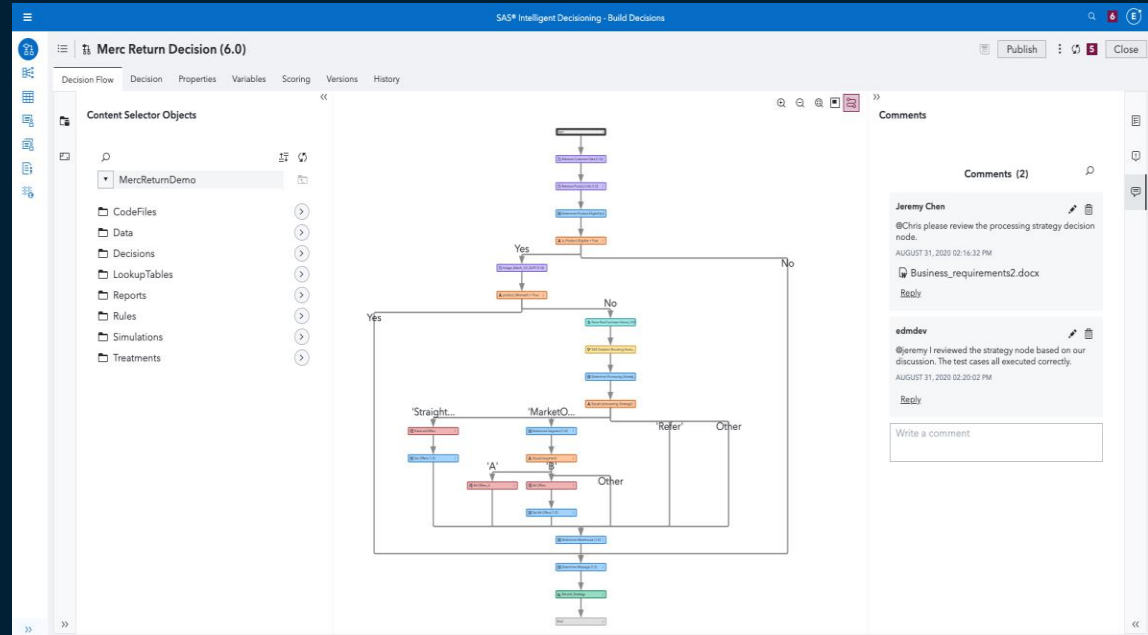
Viele Hürden, um Real-Time Infos zu bekommen

Modelle performen schwächer ohne guten Echtzeit-Input

Das können wir lösen:

Workflow-basierter Ansatz für Modell-Management

Re-Training von Modellen, Automatisierung bei neuen Modellen



The 1&1 logo is displayed in white text on a blue square background.

German Telco 1&1 achieves higher conversion rate via relevant real time offers, creating **efficient**, and superior **real-time** customer experiences

“SAS’ flexibility ensured that integrating the system into our operations went smoothly and that we could go live in such a short time frame” –

Oliver Seitz, Director of Programs, Platforms and Monetization at 1&1



Zusammenfassung: Operationalisierung von KI mit SAS

Mit SAS:



kommen Modelle
schneller in **Produktion** –
ohne Neucodierung



Georgia-Pacific

führt 1.900 Modelle mit
SAS aus



managen Sie alle Modelle
an einem einzigen Platz



Cleveland Clinic

Monitort und
verbessert Modelle in
Echtzeit



stellen Sie
Nachvollziehbarkeit durch
transparente Prozesse
sicher



Amsterdam UMC
University Medical Centers

Nutzt "Explainable AI" um
Krebsvorsorge zu
verbessern



machen Sie aus neuen
Einsichten schneller
bessere Entscheidungen



Mobile Communication

Erhöht Kundenzufriedenheit
mit Echtzeit Customer
Experience

Weitere Anwendungsfälle für KI in der Praxis



Risikobewertung



Betrugserkennung



Next-Best Offer



Kundensegmentierung



Prognose von
Kündigungen



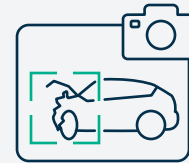
Cyber Security



Dokument
Klassifikation



Objekterkennung



Analyse von Bildern



SAS Viya ist schneller



30x

Schneller als
**SparkML, H2O &
Commercial Data+AI
Platform**

49x

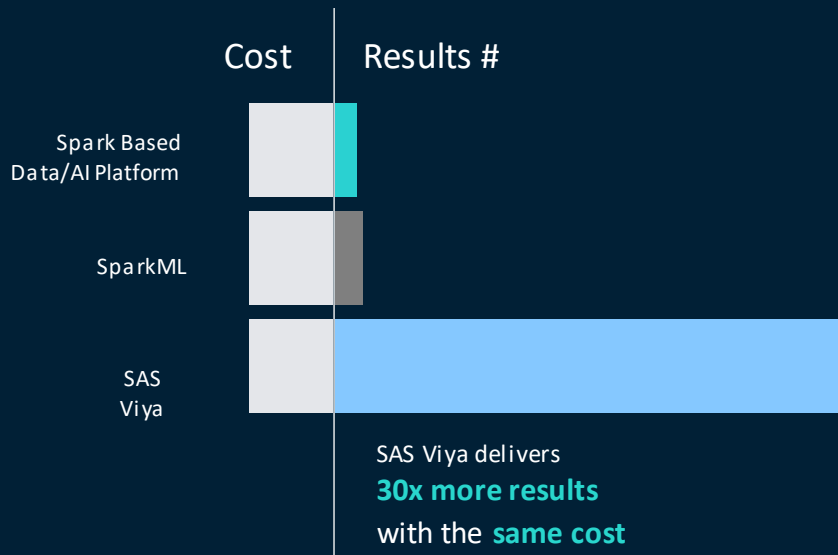
Schneller als
**eine Commercial
Data+AI Platform**

326x

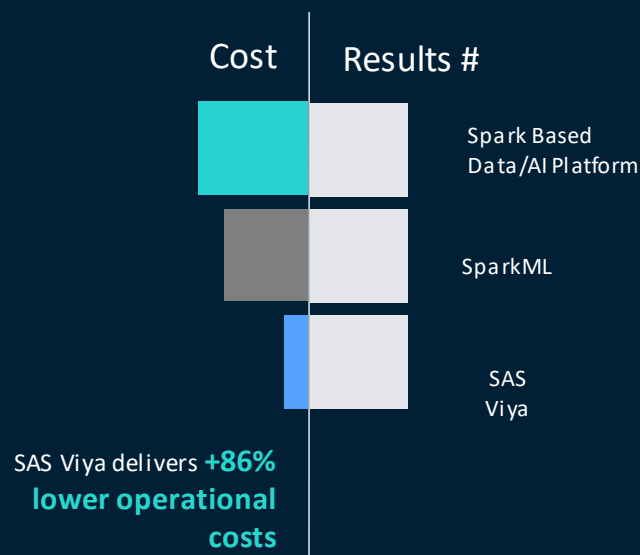
Schneller in
**komplexen
Modellen**

SAS Viya senkt Cloud Operating Costs

DO MORE WITH THE CURRENT
CLOUD BUDGET



DO THE SAME WORK AT A
LOWER COST



Nächste Schritte

Executive briefing	ModelOps self-assessment	Trial or proof of concept	Due diligence	Application deployment and production
1 Stunde	1-2 Tage	2-6 Wochen	2-3 Monate	3-4 Monate

Zeit für Optimismus!

“Fortunately, I am here to bring the good news: AI will not destroy the world, and in fact may save it.”

Marc Andreessen



[June 6th, 2023: Why AI Will Save the World | Andreessen Horowitz \(a16z.com\)](https://a16z.com)

FORRESTER®

WAVE
LEADER 2023

AI Decisioning
Platforms

[linkedin.com/in/keilthomas](https://www.linkedin.com/in/keilthomas)

thomas.keil@sas.com

sas.com

