## Use Cases

Please prepare a **90-second spotlight presentation** for one of the use cases listed below (topics with a (\*) are recommended). You can use the template below for the presentation or prepare some slides.

Please let me know if one of the links stops working!

* (\*) ALCEMY – Optimize cement production ​  
  [[DE](https://alcemy.tech/alcemy-fur-zement/)] | [[EN](https://alcemy.tech/en/alcemy-fur-zement/)]​
* (\*) AMAZON – Amazon Fresh​ strawberry selection  
  [[EN](https://www.aboutamazon.co.uk/innovation/machine-learning-using-algorithms-to-sort-fruit)]​
* (\*) AUVISUS – Intelligent cash registers​  
  [[DE](https://auvisus.com/)] | [[EN](https://auvisus.com/en/)] | [[SWR-Artikel](https://www.swr.de/wissen/ki-kantine-100.html)]​
* BAYER – Speed up plant breeding​  
  [[EN](https://www.cropscience.bayer.com/innovations/data-science/a/how-math-and-data-science-accelerate-innovation-while-conserving)]​
* BOSCH – Modeling a physical system for system control and calibration ​  
  [[EN](https://www.bosch-ai.com/research/research-applications/ai-based-dynamic-modeling/)]​
* (\*) BOSCH – Predictive maintenance for lifts​  
  [[DE](https://bosch.io/de/kunden/gebaeude/verschiedenste-aufzuege-eine-ueberwachungsloesung/)] | [[EN](https://bosch.io/customers/building/monitoring-lifts-in-the-business-park/)]​
* BOSCH – Reduce CO2 with better use of renewable energy  
  [[DE](https://bosch.io/de/kunden/industrial-iot/bosch-co2-neutrale-produktion/)] | [[EN](https://bosch.io/customers/industrial-iot/bosch-carbon-neutral-production/)]​
* (\*) DEEP MIND – Improve data center cooling efficiency​  
  [[EN](https://deepmind.com/blog/article/deepmind-ai-reduces-google-data-centre-cooling-bill-40)] ​
* (\*) FESTO – Avoid expensive breakdowns caused by malfunctioning pneumatic valves​  
  [[DE](https://www.festo.com/group/de/cms/13845.htm)] | [[EN](https://www.festo.com/group/en/cms/13845.htm)] ​
* i2X – Real time conversation analytics and coaching​  
  [[DE](https://i2x.ai/de/)] | [[EN](https://i2x.ai/)] | [[WiWo-Artikel](https://www.wiwo.de/my/technologie/digitale-welt/wie-kann-ich-ihnen-helfen-jetzt-kontrolliert-die-ki-die-arbeit-im-callcenter/27422340.html)]​
* ROLLS ROYCE – Predictive maintenance​  
  [[EN](https://diginomica.com/how-rolls-royce-improving-engine-sustainability-real-time-data-and-digital-twins)]​
* SIEMENS – Learn optimal control strategy (for heating and possibly gas turbines)​  
  [[DE](https://ingenuity.siemens.com/2021/07/kunstliche-intelligenz-steuert-ihre-anlage-auf-beste-weise/)]​
* (\*) SIEMENS – Improve plant operation through data-driven decision making ​  
  [[EN](https://ingenuity.siemens.com/2021/06/evaluation-is-the-key-ai-takes-process-optimization-to-the-next-level/)]​
* (\*) TESLA – Develop fully-self-driving vehicles​  
  [[EN](https://www.teslarati.com/tesla-patent-autopilot-enhance-object-identification/)]​
* (\*) ZALANDO – Creating individual outfits​  
  [[DE](https://corporate.zalando.com/de/newsroom/de/storys/algorithmus-mit-modegeschmack)] | [[EN](https://corporate.zalando.com/en/newsroom/en/stories/fashion-savvy-algorithm)]

Presentation Template

## Problem Overview

### Situation / Problem / Goal (feel free to add an image!)

### Value Generation (i.e., how the company makes or saves money with this)

* internal process optimization
* improves existing product
* new product / SaaS
* other:

## Solution Outline

### 1 Data Point

* Input:
  + structured data
  + unstructured data
* Output:

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### Type of ML Solution

* Model that produces a specific output given the input (→ supervised learning)  
  → Type of model (depends on desired output):
  + regression
  + classification
  + other:

→ Optional extras?

* + understand root causes
  + find optimal inputs
* Identify naturally occurring groups in the data (→ clustering)
* Identify unusual events in the data, e.g., for monitoring purposes (→ anomaly detection)
* Generate personalized recommendations or improve search suggestions (→ recommender systems)
* Find optimal sequences of actions, e.g., for complex robot movements (→ reinforcement learning)
* Other:

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