



Introduction

AI in business workshops

CERN Knowledge Transfer

CERN KT AI 4 Industry project

Translating our uniqueness in AI into impact for industry and society



CERN KT: Maximize positive impact of CERN on society

AI4I: Understand our **unique capabilities** in data science in general and in **AI specifically to create more impact** in industry and society

How:

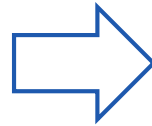
- Is there something **unique** @CERN? SW/ HW/ know-how?
- **Benchmark** to industry, OpenSource
- Discuss with **AI experts** at CERN and its 4 experiments
- Which **use cases outside** HEP could **benefit most?**

Outcome: => Updated value proposition for AI partnerships with industry
=> Partnerships of mutual interest for CERN + partner!

Workshop series

AI in business

Join us on **1st of Dec 14:00 – 15:00!**
<https://indico.cern.ch/event/973900/>

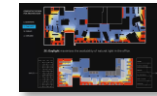


So how do **companies** approach artificial intelligence?



Session #1 – Why does every industry care about AI?

Google



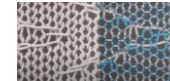
Generative design



Invention with NLP

1h

UBS



Textile property prediction with GNN



Drug discovery with DL

MIGROS

Session #2 – How is industry using AI?

How do we get the best ideas for new use cases?

How to prioritize?

Data quality is too low!

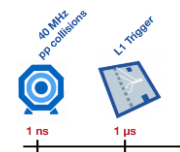
What data do we even have?

Where to work?

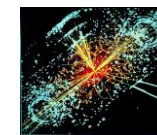


~1h

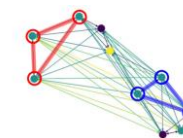
Session #3 – Helping our Member States realize impact



Fast inference?



Simulation?
Anomaly detection?



Tracking?



...?

.5d

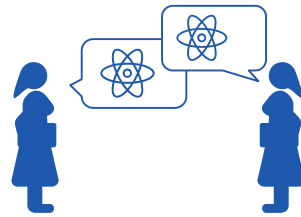
AI in science vs. business – what’s the difference?

Business requires translation into business language and actionable outcomes of AI applications

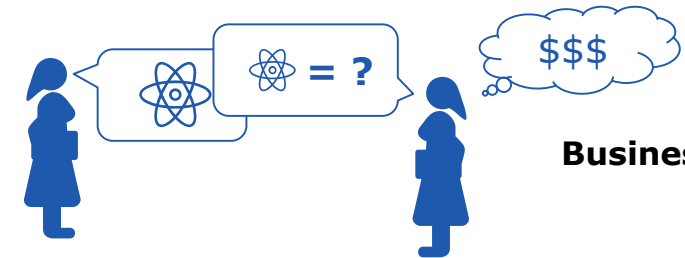
AI in science

AI in business

Target audience

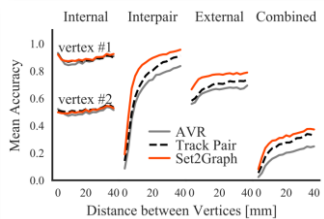


Fellow academics



Business

Needs



1
3.5M

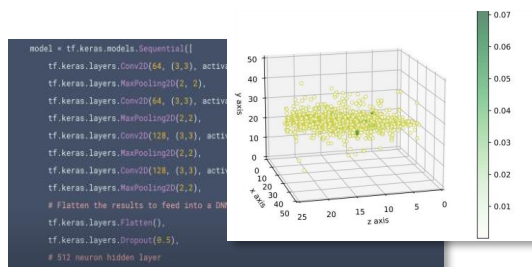
Scientific standards, high precision

~20%

80:20

Demonstrate value

Methods



Code, modelling & complex visualization



At the end, what do we have?



Bigger picture

- Monthly reports
- Data quality
- AI/ML/DL
- ...



Communication!

Credit images: Google Tensorflow; Support size 3DGAN, IML WS 21.10., Kristina Jaruskova

CERN KT AI in business workshop

Join us for the workshop and reach out if you want to think along!

AI in business workshop #1

Events happening on December 1st 2020

(Cancelled due to COVID-19) Serbian Teacher Programme
11th International Workshop on the CKM Unitarity Triangle (CKM 2020)
5th ComHEP: Colombian Meeting on High Energy Physics
A safety and reliability perspective of the CERN RadiatiOn Monitoring Electronics (CROME)
ACCU - 130th Meeting
Acts Developers Meeting
Adhoc BI-TB for LHC DC BCT performance and electronics
AI in business workshop #1: Why every industry cares so much about AI and how companies approach it
Annual Group Meeting TE-VSC
Applications (AP) Section Meeting
ASP alumni and student lectures
ASP Mentorship Program
ASP Online Seminars: Synchrotron and neutron based diffraction and spectroscopic techniques (Part 3)

<https://indico.cern.ch/event/973900/>

Indico calendar or

Indico > Departments > IPT > KT Group > KT Seminars

**Join us on
1st of Dec 14:00-15:00**

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Please let us know if you are interested to think along and share with us your ideas and experience!