

An aerial view of a city skyline at sunset. The sky is filled with vibrant orange and blue clouds. A prominent skyscraper with a glass facade is on the left, reflecting the sunset. Other buildings are visible in the foreground and middle ground, some with lights on. The overall scene is a mix of modern architecture and natural beauty.

Artificial Intelligence

at Wiener Stadtwerke

Dietmar Schabus

European Cities Conference

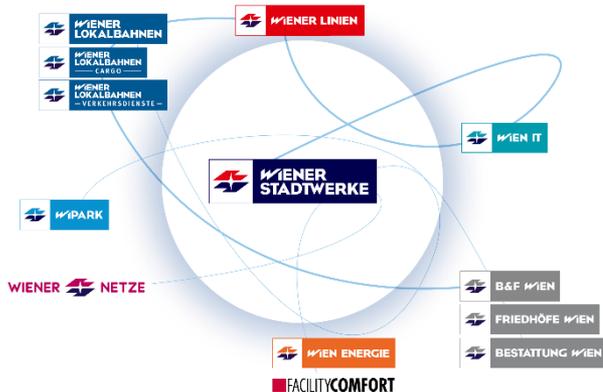
June 18 2019



**WIENER
STADTWERKE**

The Wiener Stadtwerke group is Austria's largest municipal infrastructure provider

We take care of the lifelines of the city



- 1,250 vehicles (1,100 WL + 150 WLB)
- 1,000 km rail network with >1,000 stations
- 23,000 parking spaces in 70 garages



- > 30,000 km energy network (electricity, gas, district heating) & 2,000 km optical fiber
- > 2 million energy meters
- Energy production based on photovoltaics, wind energy, waste incineration, natural gas



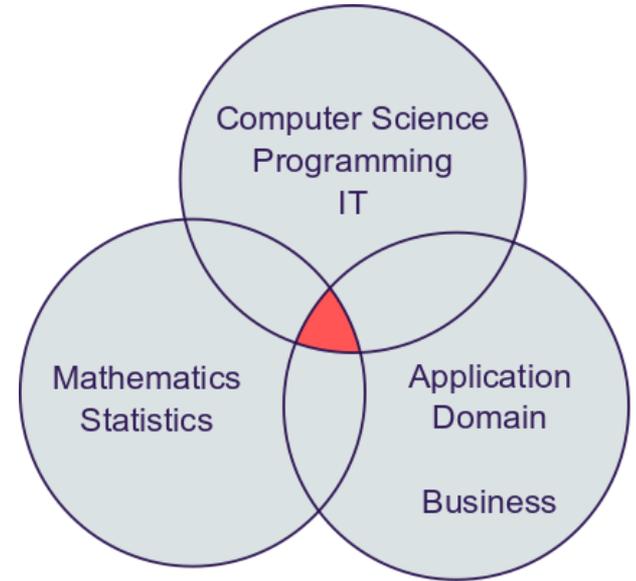
- > 2.6 million passengers per day
- > 2 million energy customers
- 15,000 employees

Artificial Intelligence and related concepts

*Doing smart and
useful things
with data*



- Data Analytics
- Data Science
- Data Mining
- Big Data
- Machine Learning
- Artificial Intelligence

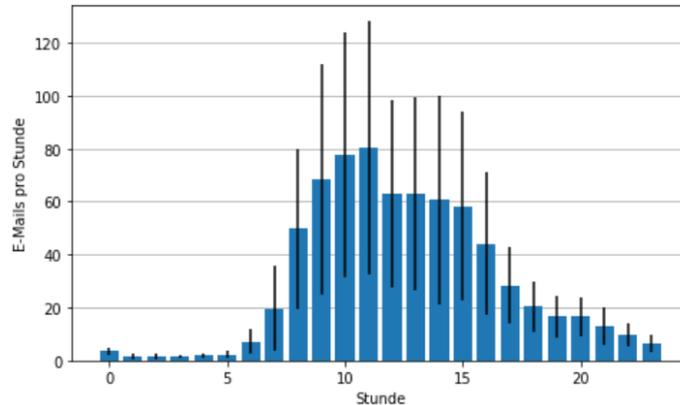
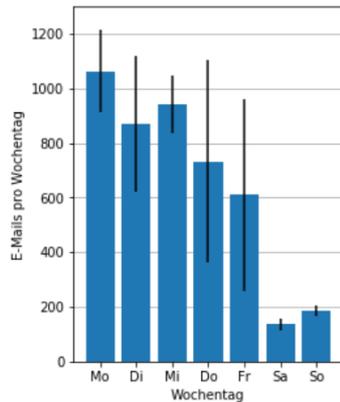


What is our goal?
What is the added value?
What problem is being solved?



E-mail Categorization

Automatic pre-processing
of customer e-mails

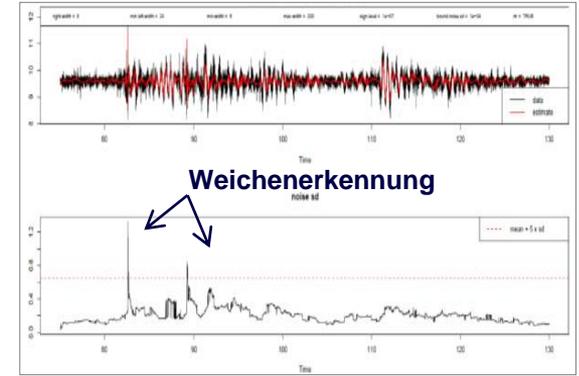
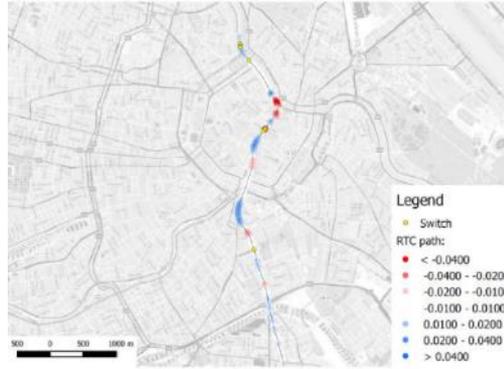


- Wien Energie (energy provider) receives >1,000 customer e-mails per day
- Current first step: manual categorization by employees
- Automation: A text analysis AI can take over this task
- Includes: Text extraction from images (OCR) for attachments



Rail Shock Recording

Continuous monitoring of rails using smartphone vibration sensors

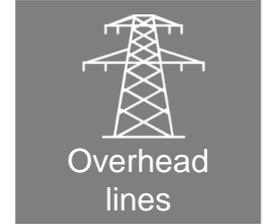
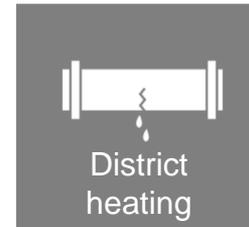
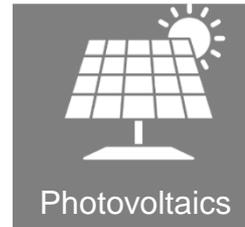


- Detection of **safety and comfort related problems** in the rail infrastructure of Wiener Linien subway
- **In addition to** existing (but expensive) rail test car
- **Mobile crowd sensing** by passengers with smartphone sensors
- **Proof-of-concept completed**



Smart Inspection

Infrastructure inspection
using camera drones and
computer vision



- Development of a camera mount for a drone
- Quick inspection during operation
- Automatic detection of damages via artificial intelligence



Tips & takeaways

- **Organize your data**
Clarify data ownership and responsibilities, ensure high data quality – a.k.a. clean up your mess
- **Know & understand your data**
Simple statistics, plots, reports are easy to do
- **Involvement in-house (as much as possible)**
Don't just outsource to magic AI start-ups and wait for the results
- **Start with simple things**
Increase complexity gradually
- **Keep the goal, added value and implications in mind**
Don't do AI because you want to do AI
Be aware of question of ethics, bias, etc.

Contact

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