MACHINE LEARNING PLATFORM FOR DATA SCIENCE

Aim of developed technology (Aims and Scope)

In cooperation with our partner/contractor, **define** suitable data and areas where data science methods can be applied. **Design** predictive neural network models. **Apply** the models on partners/contractors data. **Provide** tailor-to-made IT solutions.

Potential adopters of technology (Potential Users)

All companies, contractors that are interested in using their data for optimizing the processes (decision, production and others), applying sales and demand forecasting methods and/or for searching for hidden trends.

Market and context of technology (Relevance and Application)

Social networks, photo cameras, washing machines and other products are nowadays using predictive models based on neural networks. Moreover, utilization of data is more pronounced within the strategy of Industry 4.0. Therefore, department of informatics is actively developing Machine Learning platform for data science. The consortium composed of the department and companies/contractors is established concurrently with this platform. The goals and challenges in application of data science methods in companies are discussed within the consortium. Typical outputs of this consortium are areas of application of data science methods. Thus, companies create demand and department of informatics provide tailor-to-made solutions.

Preconditions in adopting enterprises (Application requirements)

Every tailor-to-made solution requires to:

- Discuss and define company needs and areas of interest for application of data science methods.
- Collect and explore quantity and quality of company data.
- Explore existing data science models and methods used in the company.
- Define suitable data science model.
- Validate simple model and compare the results with existing methods.
- Extend simple model to increase its reliability or to extend its application, e.g. include external data sources.
- Validate extended model.
- Help with implementation of the data science model to company IT environment.

Sustainability

Rapid evolution of data science field requires flexible solutions based on technologies with strong community. Therefore, our platform is based on such open-source solutions with Python environment. Continuous discussion within the consortium also guarantees that up-to-date solutions are proposed.