

How to broaden your knowledge of the use of AI

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AI4DETAIL - artificial intelligence for distributed asset usage monitoring & analysis

Though important for its design, development and maintenance, information about the usage of a product is not always available. Large-scale data collection can provide the necessary insights, and AI and ML technologies can help you exploit this data, to make more accurate assumptions and address existing challenges. In the context of the AI4DETAIL project, which had building and capturing knowledge about the potential AI for data-driven usage monitoring as its primary aim, a casebook and several Starter Kits were developed to help companies with data innovation and AI.

Throughout its life time, information on how a product is used is not always available or taken into account. However, knowing who the end users of the product are, how it will be operated and under which conditions is essential for the design, development and even post-deployment maintenance of the product. Otherwise, conservative and unfounded assumptions may lead to (expensive) overdesign, long lead time, the inability to detect errors, and endless discussions about warranties and reliability issues.

Digitisation offers an opportunity for improvement, since continuous, large-scale data collections can provide insights into the usages of the products and their actual implementations. AI and ML

technologies can help exploit this data to make more accurate assumptions and address the above mentioned challenges.

Inspiring casebook

The AI4DETAIL project, a COOCK project, funded by VLAIO and led by the EluciDATA Lab by Sirris, had as a primary aim to build and capture knowledge about the potential AI for data-driven usage monitoring, and spread it to a broad target audience in different industrial sectors.

Within this project, the EluciDATA Lab team developed a casebook, to help companies understand the potential of data innovation and AI. The cases in this casebook offer **concrete examples of specific challenges** and illustrate innovative and inspiring ways in which companies can solve them. Each case includes a section that describes the business challenge at hand, the data-driven approach considered, the available data that was used, and the different steps in the data analysis.

DIY with Starter Kits

To broadly share the knowledge acquired during the project, the EluciDATA Lab team created a public github.io page, where multiple Starter Kits are presented. A Starter Kit is a **self-contained collection of autodidactic material**, providing a description of a specific data innovation topic in terms of its business goal, data-related requirements & challenges, relevant data science tasks, etc. These also contain a documented proof-of-concept solution, using public datasets, illustrating which machine learning methods to use and how they should be combined.

The available Starter Kits are, among others: Advanced Data Visualisation, Remaining Useful Life Prediction and Resource Demand Forecasting. This is a dynamic collection, which is gradually extended with new innovative AI solutions inspired on our running R&D projects.

Authors