Adaptive Framework for AI in Manufacturing

We provide an adaptive framework for integrating AI into manufacturing
Which enables production lines to become more flexible and resilient.
We aim to enable adaptive and smart manufacturing
By leveraging modular mechanisms to deploy AI algorithms.
The benefit is a technology-agnostic framework with easy integration.

1. Problem / Challenges

Adopting smart manufacturing techniques enables companies to make their production lines increasingly flexible and resilient, moving beyond traditional constraints regarding machinery layouts and settings. For instance, this approach makes it possible to create more product variants, adapt quickly to new orders, and keep the shop floor running even under unforeseen circumstances. This functionality is supported by AI, which is fully integrated into production. However, supporting this level of flexibility requires a fundamental shift in infrastructure, which can be challenging to accomplish.

2. Solution / Results

We offer a framework that enables adaptive and smart manufacturing by leveraging AI techniques. This encompasses: a service-oriented architecture; connectors to collect data and communicate with machinery; a contract-based mechanism for the deployment of services; modules for packaging, deploying, and managing AI algorithms. This approach allows companies to bring AI to the production line in a way that is complementary to their existing systems, adding a flexible infrastructure layer that can be customized according to their specific setup. Once this is in place, the system can be enriched with AI-based applications for predictive maintenance, root cause analysis, quality control, dynamic process adaptation, etc.

3. Benefit / Offer

- **Workshops:** Organizing workshops to clarify goals, involve stakeholders, evaluate the current infrastructure, and outline an implementation plan.
- **Infrastructure implementation:** Updating the existing system to include additional mechanisms required for operating in a smart manufacturing context.
- **AI lifecycle:** Catering to the complete AI lifecycle, including training AI models, deploying them for live operation, and dynamically retraining them as they become outdated.

4. USP

We provide a flexible framework for integrating AI into the production line. This solution is modular and technology-agnostic, so its functionality can be partially or completely deployed. Additionally, it can be freely integrated with existing tools as necessary.

Contact us for more information

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