ID de Contribution: **164** Type: **Non spécifié**

IDEFICS: A Framework for Accelerating Deep Learning Adoption in Industry

jeudi 27 novembre 2025 11:55 (20 minutes)

The rapid advancements in deep learning, particularly in computer vision, present significant opportunities for industrial innovation. However, many companies face substantial barriers to entry, including the high cost of computational resources and a shortage of specialized machine learning talent. The IDEFICS project aims to address these challenges by providing a comprehensive framework that offers both state-of-the-art computational infrastructure and the expertise of skilled machine learning engineers and researchers. This initiative serves as a catalyst for businesses to integrate advanced AI technologies into their operations without prohibitive upfront investment.

This presentation will first outline the global vision and operational model of the IDEFICS project, detailing how we collaborate with companies to identify and execute research and development projects. We will then delve into a specific case study: an object detection project developed for an industrial partner. This section will cover the practical implementation of a solution using YOLOv7, and some of the directions we decided to explore.

Keywords: Deep Learning, Computer Vision, Object Detection, YOLOv7, Technology Transfer, Industrial AI

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Classification de thématique: Other