# Hackathon showcases AI and robotics integration in logistics



A hackathon organised by igus in Cologne has demonstrated significant advancements in the integration of artificial intelligence (AI) and robotics within the logistics sector, particularly in supermarket operations. The event, aptly named “Artificial Intelligence meets Robotics,” brought together 17 participants from various academic and research institutions, including the Fraunhofer Institute for Intelligent Analysis and Information Systems (IAIS), the University of Bonn, and the Lamarr Institute for Machine Learning and Artificial Intelligence.

The collaborative effort aimed at creating an automated solution for the packing of frozen pizzas, addressing the needs of a supermarket situated near a major pizza manufacturer. Currently, this operation relies heavily on an understaffed team performing manual tasks to maintain an adequate supply of products on the shelves.

Spanning five days, the hackathon saw three interdisciplinary teams strategising on how to program an igus ReBeL robotic arm to automate the packing process. Participants worked with a webcam and an AI-based segmentation system, known as the Segment Anything Model (SAM), which enabled the identification of various pizza products as they moved along a conveyor belt. By employing a large AI-based language model (LLM), the system was engineered to interpret voice instructions from staff, directing the robotic arm to select the correct items and place them into mixed packages.

The outcomes were highly promising, as showcased by comments from Alexander Zorn of the Fraunhofer IAIS, who expressed satisfaction with the project’s success. “We are very pleased to be able to use igus’ robotics know-how to develop real proof-of-concepts for customers in industry," he stated. He highlighted that the synergy between AI and robotics could lead to more efficient and automated work processes in various industrial settings.

Alexander Mühlens, head of Low-Cost Automation at igus, elaborated on the significance of the hackathon, noting that it provided an opportunity to illustrate the potential of AI and low-cost robotics solutions to their customers. “Our dream is to be able to easily control robots via a voice command, in any application,” Mühlens remarked. He also indicated that the promising results could pave the way for further automation across multiple processes, including simultaneous box packing, sorting products by specific criteria, and employing camera systems for allergen checks.

This initiative underscores the future trends in AI automation in business practices, suggesting a shift towards more efficient, cost-effective logistics solutions. The successful interactions between igus, the university, and the involved research institutes reflect a growing trend that could transform industry operations, particularly in sectors reliant on high-volume, repetitive tasks.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

* <https://www.wileyindustrynews.com/en/news/igus-hosts-hackathon> - Corroborates the details of the hackathon, including the participation of 17 individuals, the involvement of various institutions, and the use of AI and robotics to automate pizza packing.
* <https://www.igus.eu/info/current-news-eu> - Provides information about the hackathon at igus headquarters in Cologne, the motto 'Artificial Intelligence meets Robotics,' and the collaboration with academic and research institutions.
* <https://www.wileyindustrynews.com/en/news/igus-hosts-hackathon> - Describes the use of a webcam and an AI-based segmentation system (SAM) to identify pizza products on a conveyor belt and the role of a large language model (LLM) in interpreting voice instructions.
* <https://www.igus.eu/info/current-news-eu> - Mentions the involvement of the Fraunhofer Institute for Intelligent Analysis and Information Systems (IAIS), the University of Bonn, and the Lamarr Institute in the hackathon.
* <https://www.wileyindustrynews.com/en/news/igus-hosts-hackathon> - Highlights the comments from Alexander Zorn of the Fraunhofer IAIS on the project's success and the potential of AI and robotics synergy.
* <https://www.igus.eu/info/current-news-eu> - Quotes Alexander Mühlens, head of Low-Cost Automation at igus, on the significance of the hackathon and the potential for further automation.
* <https://www.wileyindustrynews.com/en/news/igus-hosts-hackathon> - Discusses the potential applications of the technology, including simultaneous box packing, sorting products, and using camera systems for allergen checks.
* <https://www.igus.eu/info/current-news-eu> - Provides context on igus's focus on low-cost automation and AI solutions, aligning with the hackathon's goals.
* <https://www.wileyindustrynews.com/en/news/igus-hosts-hackathon> - Details the collaboration and the outcomes of the hackathon, showcasing the integration of AI and robotics in logistics.
* <https://www.igus.eu/info/current-news-eu> - Supports the idea that the hackathon reflects a growing trend towards more efficient and cost-effective logistics solutions using AI and robotics.
* <http://www.roboticsupdate.com/2025/01/improved-pizza-picking-using-robots-and-ai/> - Please view link - unable to able to access data