

Enhancing Grocery Checkouts with AI-Driven Object Recognition

For over 30 years, we at GK Software have been pioneers in retail technology. Currently, our R&D department is working on many AI applications, including the integration of AI into grocery checkout processes with the aim of improving efficiency and enhancing the customer experience using advanced AI-driven object recognition.



The Retail Innovators



AI on Peripheral Devices

Our AI technology, once fully developed, will enable image recognition directly at the checkout, operating offline and integrating seamlessly with master data information. This will reduce the reliance on extensive selection tables and speed up transactions, thereby enhancing the overall efficiency of the checkout process. Recent advancements in AI are leading us to develop precise, efficient, and resource-saving algorithms that can run on end devices without requiring server communication.

This ensures offline functionality and increases the robustness of the checkout system. With a deep understanding of operational processes and hardware requirements, particularly in grocery retail, we are designing solutions that meet the unique needs of retailers. Our extensive experience ensures optimal performance and integration of our technologies. The AI solution we are developing will support MacOS and iOSbased devices, showcasing our flexibility and commitment to accommodating diverse technological environments.



Benefits and Use Cases

Once implemented, AI-driven object recognition will significantly increase checkout efficiency, leading to improved revenue and enhanced customer experience. The technology will also facilitate easy mapping for quality control use cases and enable data collection during runtime, which helps in training better models. Looking ahead, beyond object recognition, AI algorithms can be seamlessly integrated to support forecasting, goods ordering, stocktaking, and planogram optimization on mobile devices. This will greatly reduce organizational and time expenditure for employees, boosting overall efficiency and reducing costs.



Integration and Flexibility

The solution will include a connectable API service that can be used with a simple webcam, making it versatile and easy to implement. AI models will be trained beforehand to achieve high recognition rates, supporting both in-house and retailer-provided models. While on-device model training is possible, its necessity is still under evaluation. A single app will host the trained model, running seamlessly to enhance the checkout process.



AI-driven object recognition is set to transform the retail landscape, offering significant added value through improved efficiency and customer satisfaction. Our innovative solutions ensure a flexible, robust, and future-ready approach to retail technology.