

How do I...?

Use AI and ML for Restaurant Management

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"Artificial Intelligence or AI in short, is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence." (McCarthy, n.d.). Machine Learning (ML) is the ability of algorithms to learn from processing past data, typically called training data, to make predictions accurately for present and future situations. The advancements in AI and ML are creating shifts in every industry, including restaurants.

Some of the common uses for AI and ML in restaurants have been -

1. In-store kiosks or online delivery apps that analyze buying patterns to create offers
2. Chatbots that manage reservations, take orders, and respond to queries

The applications extend beyond customer service and based on existing data, restaurants can adjust ordering decisions and make demand forecasting more impactful. Not only does this lead to more informed sales but also to lower food wastage on a daily basis. More specifically for restaurant management, ML algorithms can match customers to restaurants based on their taste preferences, identify ingredients in a dish, and even teach robots how to cook.



Step

1

Forecast your Demand

Understand and predict customer demand to optimize supply decisions at your restaurant

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Image Source: [Kayleigh Harrington](#)

Forecast your restaurant's demand/sales

It is true that a variety of external factors such as weather, events in the area, and general affinity for specific foods affect the demand at restaurants. Using AI algorithms can help predict the demand on a particular day at different locations based on past data. Relying on machine learning based applications, restaurant owners can be aware of which menu items are driving sales during a particular season. This would also help them order raw materials from suppliers correctly.



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Step

2

Use Digital for Customer Insights

Create a digital brand presence for your restaurant by using integrated online ordering platforms

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Image Source: [Carlos Muza](#)

Use digital methods to identify and serve your customers

An online platform provides restaurant owners a huge number of targeted audiences and helps manage the entire process through mobile applications. Integrated machine learning systems can help restaurants increase the accuracy and optimization of identifying target customers, placing orders, delivery updates, and assigning new tasks as they come in.



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Step

3

Increase Transparency

Track the path of goods from where they are grown to where they are received by consumers, ensuring transparency

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Image Source: [Sri Lanka](#)

Increase transparency around food and the specific ingredients

It's vital for restaurant owners to be more transparent about the food's journey through the supply chain. AI in food manufacturing aids in the monitoring of the various stages of the process, tracking the path of goods from where and how they're grown to where they are received by customers. Each ingredient or raw material in a dish can be tagged uniquely through AI image recognition techniques and be made available as a list to customers ordering these dishes.



Step

4

Monitor/Maintain your Restaurant

Detect factors affecting quality
of processes and monitor
overall equipment effectiveness
in real-time

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Image Source: [Nick Night](#)

Monitor and maintain your restaurant's equipment

Some restaurants, such as those housing microbreweries, consist of complicated and elaborately constructed sets of machines. Predictive maintenance is of utmost importance for these machines if the supply chain isn't to be disrupted. Creating a digital twin for these machines through AI algorithms can help track their performance data. Machine learning also aids in detecting factors affecting the quality of manufacturing processes, and monitoring the machine's actual overall effectiveness in real-time.



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Step

5

Improve Service

Recognize food preferences of customers, recommend similar dishes, and enable self service to eliminate human error

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Image Source: [Louis Hansel](#)

Improve service and customer satisfaction at your restaurant

AI can recognize food preferences, allergies, or dietary restrictions based on past orders or customer insights. Mobile ordering apps or self-serve kiosks not only help remember customer preferences but also cut down on human service errors. They make the overall customer experience smoother, especially in busy restaurants with a high wait time for service. AI can also make determinations of a dish's freshness and appearance before it is sent out to customers.

Sources

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