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Artificial Intelligence Transforming the Culinary Industry

Robot Chefs Churning Out Restaurant-Quality Meals; Kitchen Gadgets Incorporate AI

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While we're still a long way in honoring an AI robot chef with a Michelin star, their popularity and usage in the culinary industry continues to grow. Thanks to generative AI technology, many of your kitchen appliances have also gotten a lot smarter – and more efficient. And AI is quickly changing the way we cook food and formulate recipes at home.

Foodbeast stated, for instance, that if a machine equipped with AI is given a list of ingredients and uses/origins, "it can then apply an algorithm which allows it to create new recipes. It even has the potential to create completely new receipes by combining ingredients in previously unimagined ways...AI can also account for dietary restrictions, personal preferences, and health concerns."

Researchers at the Georgia Institute of Technology (GT) have developed ChattyChef, a dataset that uses GPT-J, an open-source large language model enabling users to easily cook from a recipe. The research project was supported in part by National Science Foundation awards.

Tess Malone, a GT senior research writer/editor, said researchers wanted to make sure the model included two important features: "User intent detection to determine the user's current intent within a fixed set of possibilities, such as "Ask for next instruction" or "Ask for details about ingredients", and instruction state tracking to identify which recipe step the user is on, which works with 80% accuracy." Malone added that ChattyChef may eventually expand beyond cooking, e.g., for repair manuals or software documentation.

Meanwhile, according to Rio Yamai of the Associated Press, last month's CES 2024 in Las Vegas showcased a welter of AI-powered tech gadgets that will make our lives a tad easier in the kitchen.

Brisk It's, for instance, rolled out the NeoSear, a new smart grill.

"You can ask the grill all kinds of questions to create the perfect recipe. What seasoning should I add to make my chicken skewers spicy? How do I sear a medium rare steak? Once you've nailed down a recipe and prepped the food, Brisk It's InnoGrill AI 2.0 technology will command the grill to cook it," noted Yamai.

GE Appliances spokesperson Whitney Welch added that the company's GE Profile Smart Indoor Smoker, about as big as a standard toaster oven, uses wood pellets to achieve a smokey flavor. The AI technology utilized "traps the smoke inside, making it perfect for people who live in urban environments like high-rise apartments."

And speaking of grills and smokers, WION, an Indian English language news channel headquartered in Noida in northern India, reported that UK startup Seergrills has rolled out Perfecta, an AI-powered grill that the company claims can deliver more than 50 types of food in less than three minutes.

If cooking meat, for example, users put the meat on the grill and utilize a touchscreen to set the cooking level (e.g., well done, medium, various sear levels, etc.). Perfecta then "measures the size, surface area and fat content of the meat, using intelligent sensors that are part of its AI system."

And enter the AI robot chef. Many of these AI chefs are churning out precise restaurant-quality meals in real-time due to enhanced AI technology and state-of-the-art optical cameras and sensors.

One example from London-based startup Moley Robotics – its product has robotic arms installed above a home stove. The arms whisk, flip and stir from more than 5,000 recipes. Foodbeast says "all you have to do is supply the ingredients."

Another is Flippy 2, an AI-powered robotic fry cook from US-based Miso Robotics. As reported by Nidhi Singh in Jumpstart, Flippy 2 "recognizes food in the bin, cooks it in the correct fry basket and places it into the hot-holding area without human intervention. This closed-loop system reduces human-to-food contact, increasing productivity by up to 30 percent."

AI-driven robot chefs and AI-powered kitchen gadgets are quickly changing how we both prepare and serve food. It will also free up a lot of time spent in the kitchen.

AI "will undoubtedly help us in ways we both least expect and eagerly await."

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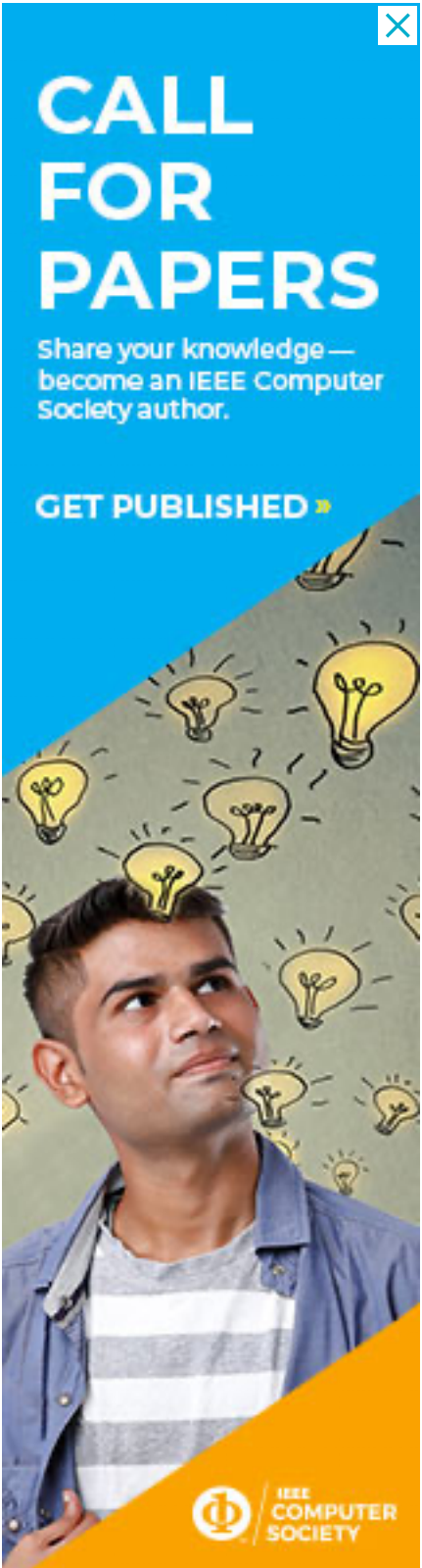
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