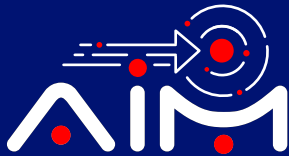




TECH TALK

Issue 152 | February 2025

**Pioneering Tech
Leadership with a
Legacy of Excellence.**



Galaxy Office Automation Pvt. Ltd.

Galaxy Awarded Best System Integrator

Galaxy is proud to announce that we have been awarded "Best System Integrator" at the prestigious 23rd Var India Awards.

This recognition is a testament to our dedication to excellence and innovation in the field of system integration.

We are grateful to our team for their hard work and commitment, and to our clients for their trust and support.

**Here's to many more achievements
in the future!**



Foreword

Dear Readers,

Just last month, I mentioned something about GPU tokens getting cheaper. Little did I imagine that the price drop would be so steep and so rapid. DeepSeek has just launched its offering, and at first glance, it seems to be a blockbuster. Of course, it is still early days, but from what I've seen so far, it will definitely create a revolution in the democratization of AI.

Many AI-based use cases that were hitherto economically unviable are now becoming viable. At Galaxy, we are already working on leveraging DeepSeek to enhance our AI offerings. Our frictionless AI solutions, which require little to no structured data, can be deployed very quickly and will now operate with significantly less computing power.

For use cases that require clean, well-structured, and accessible data, our data engineering team specializes in building scalable data pipelines. Whether you're looking to implement predictive analytics, natural language processing, or computer vision, we can help you lay the groundwork for success.

At Galaxy, we are at the forefront of bringing AI-based solutions to you. Do reach out to our experts and evangelists to discuss how they could help your business.

Happy reading.



Anoop Pai Dhungat
Chairman & Managing Director



Future is now!



AI Robot Chefs: The Future of Cooking?

The culinary world is embracing many innovative technologies. Today, AI robot chefs can actually do more. With the aid of onboard sensors, optical cameras, and enhanced AI technology, these AI robot cooks are fundamentally designed to multitask, executing the actions and movements of professional human cooks in real time.

What Is an AI Robot Chef?

In simple terms, an AI robot chef is an AI-enhanced robot that is designed to cook food. One of the latest AI robot chefs, Moley Robotics, is the world's first fully robotic kitchen and acts as an AI autonomous system that can automate virtually every part of the cooking process. It is a ceiling-mounted device that works in conjunction with an entire smart kitchen. With its two arms, it glides along a track fitted in the ceiling and is able to adjust temperatures, use the sink, mix and pour ingredients into pans, as well as stir pots. Pre-programmed with recipes, Moley Robotics can cook over 5,000 meals at a time and clean up when it is done.

These robots can learn how to make food through the aid of the sensors attached to kitchen utensils which serve to analyze recipes. They are also able to monitor more than 1,200 parameters every microsecond and can touch, smell, see, and hear. These sensations send feedback to their Operating Systems (OS), creating a learning loop



similar to that of a human being. With the help of these features, they can automate many kitchen tasks and learn new skills over time. AI robot chefs have tactile, contact, and proximity sensors for recording tasks, capturing movements, and cooking recipes. This allows the robots to decipher when ingredients need replacing, suggest dishes, control calories, and adapt the menu to different diets and lifestyles. The AI robot chef is able to teach itself and perform these tasks by storing information in its database and retrieving it whenever the need arises.

There is every indication that the 21st-century world seems ready to welcome more of the innovative technologies of AI robot chefs, as experts predict that there will be 482.8 million smart homes by 2025. It is also estimated that the global human population will hit 8.0 billion before

the end of 2025. This will trigger an increase in food demand, pressure on the global food industry, and a call for better and sustainable food quality by consumers. This is where the AI robot chef comes in handy.

Benefits of AI Robot Chef

1. Solves Understaffing

AI robot chef solves the problem of understaffing for most restaurants, fast food, and high-volume kitchens by complementing or taking over the job of human beings, thereby reducing cost and enhancing customer experience.

2. Reduces Waste

By dispensing the required ingredients for each meal, AI robot cooks help to reduce food waste and costs through the elimination of human error arising from over-estimation. In addition, advanced AI robot chefs can monitor and control the environment of food storage containers to avoid spoilage of ingredients.

3. Smart Kitchen Collaboration

Smart kitchens are now commonplace in most homes, and they come with automated features and semi-autonomous appliances needed for the AI-enhanced robot chef to function effectively. This reduces the time human cooks spend in the kitchen.

4. Contamination Reduction

AI robot chefs serve to eliminate the risk of contamination arising from foodborne illnesses. They also encourage savings, increase business profit, and enhance customer satisfaction and loyalty.

Limitations of AI Robot Chef

The AI Robot Chef is unable to deal with the preparation of ingredients and food items for cooking, such as peeling a potato or garlic, dicing carrots, and cutting vegetables or fruits. AI robot chefs are very expensive at the moment which makes many people unable to afford them. Human beings naturally enjoy cooking and trust eating their food so, it is largely unlikely that AI robot chefs will replace human cooks completely and may instead act as an assistant.

Future Path

Researchers at Cambridge University have created an AI robot chef that can taste the food at different stages of the chewing process. While this is an ongoing project, the desired result would be an AI robot chef that can chew anything, applying its enhanced sense of taste in the process. In addition, AI robot chefs would need to have improved taste receptors to be able to have the

five basic taste modalities of sweet, sour, salty, bitter, and savory.

There is still the need to evolve an AI robot chef that would better integrate detailed data as it is received into its OS, in order to ensure greater flexibility, enhanced operation, and improved outcome. Online Robotic Ghost Kitchen promises to be the next big thing and will make it possible for people to create their menus and recipes and order their meals online. These AI robots would prepare the recipe according to the given specifications and have them delivered to their customers in record time.

Overall, the golden era for technological advancement in the food industry seems to have arrived. Though this advancement has suffered some delay, there is hope that the global acceptance predicted to accompany the AI robot chef system will make up for its many years of development.

[Read more →](#)

The Art of Forecasting

What is Predictive AI?

Predictive artificial intelligence (AI) involves using statistical analysis and machine learning (ML) to identify patterns, anticipate behaviors and forecast upcoming events. Organizations use predictive AI to predict potential future outcomes, causation, risk exposure and more.

Analysts have long used predictive analytics within organizations to make data-driven decisions. However, Predictive AI technology speeds up statistical data analysis and can make it more accurate due to the sheer volume of data that machine learning algorithms have at their disposal. Predictive AI reaches its conclusions by analyzing thousands of factors and potentially many decades of data. These predictions can help organizations prepare for future trends.

Predictive AI is sometimes confused with descriptive or prescriptive analytics; descriptive analytics helps organizations understand why something happened in the past, while predictive analytics helps them anticipate what is likely to occur. Prescriptive analytics recommends actions an organization can take to guarantee those outcomes happen.

Predictive AI is widely used to gain insights into customer behavior and optimize decision-making across industries. It can predict anything from customer churn to supply chain disruptions to mechanical failures, enabling proactive planning by producing reliable, accurate forecasts.

How Predictive AI works

The accuracy and performance of predictive AI models largely depend on the quality and quantity of



the training data. Rigorous data governance practices, data cleaning, validation and consistent updates to the data sets, guarantee that the data used is reliable, which in turn enhances the accuracy of the predictive models.

Building a predictive AI application requires a business to gather relevant data from various sources and clean it by defining missing values, outliers or irrelevant variables. The data is then split into training and testing sets, with the training set used to train the model and the testing set used to evaluate its performance. Predictive AI uses big data analytics and deep learning to examine historical data, patterns and trends; the more data provided to the machine learning algorithms, the better the predictions are.

It is also essential that organizations address ethical considerations and mitigate biases in predictive AI models. Biases in data or algorithms can lead to unfair or discriminatory outcomes. Ethical AI practices protect against harmful impacts and build trust with users and stakeholders.

Algorithm Choice in Predictive AI

Once the data is ready, data scientists can train the predictive AI model. Various machine learning algorithms, such as linear regression, decision trees and neural networks, can be used. The choice of algorithm depends on the nature of the data and the type of prediction being made.

Predictive AI employs a subset of machine learning and AI algorithms to generate accurate forecasts.

Neural networks: Neural networks are commonly used for various tasks because they can learn complex patterns from large datasets.

Linear and logistic regression: Linear regression is a technique primarily used to identify correlations between variables, while logistic regression is practical for classification tasks such as helping to categorize data into distinct groups.

Support vector machines: Support vector machines are also used for classification, offering robust performance in scenarios with clear margin separations.

Decision trees: Decision trees estimate outcomes by splitting data into branches based on feature values, improving classification accuracy.

K-means clustering: K-means clustering is employed to sort data into groups based on similarity, aiding in the discovery of underlying patterns within the data.

Data Diversity

Regardless of the algorithm an organization uses, during training, the model learns relationships and patterns in the data and adjusts its internal parameters. It tries to minimize the difference between its predicted outputs and the actual values in the training set. This process is often iterative, where the model repeatedly adjusts its parameters based on the error it observes until it reaches an optimal state.

Models trained on more diverse and representative data tend to perform better in making predictions. Also, the choice of algorithm and the parameters set during training can impact the model's accuracy. Given enough data, a machine learning model can learn to sort through the information and process data, yielding more accurate outcomes.

Embeddings in Predictive AI

Predictive AI can query databases quickly and efficiently by using embeddings. Embeddings are a way to store information that allows the AI to identify similarities and relationships. Created by unsupervised neural network layers, embeddings turn information into vectors and place them within a mathematical space that relates to all other information in the dataset. Embeddings that cluster together are considered relevant to each other, allowing the AI to rapidly "read" all relevant data and make a prediction.

Explainability and Transparency

Explainability and transparency in AI models are critical for building trust and protecting regulatory compliance. Explainable AI helps stakeholders understand how

predictions are made; providing transparency is crucial for gaining user trust and meeting legal and ethical standards, especially in sensitive areas like finance and healthcare.

Big Data Analytics and Predictive Models

Predictive analytics applications involve feeding structured data like sales figures, sensor readings and financial records into machine learning algorithms such as regression or decision trees to provide real-time analysis. The algorithms analyse historical correlations between variables that preceded outcomes. These patterns inform quantitative models to predict events under new conditions. Precision keeps improving as models ingest more relevant, clean data over longer time horizons to refine correlations. Predictions become more trusted as successes pile up.

[Read more →](#)

Edge Security: An Imperative

Beyond Efficiency and Productivity: Critical Edge Security

In this era of boundless digital connections, CISOs and physical security teams face significant challenges in ensuring safety within their organization. The growing number of security threats, coupled with the surge in edge and IoT devices and sensors, has significantly intensified the challenges of managing and securing them.

OT/Security Teams, usually small in size, must manage threats, protect premises and people, and ensure business continuity. They are also responsible for maintaining optimal performance and managing cybersecurity risks across thousands of connected assets, such as surveillance cameras, PAC systems, and safety devices, which makes the attack surface area extensive.

The focus has long shifted from centralized cloud systems to the distributed edge, where the devices at the edge are vulnerable to a rising tide of cyber threats, jeopardizing sensitive data and requiring significant resources for mitigation.



Galaxy helps to mitigate the risks and build robust cybersecurity resilience at the edge through:

- **Centralized Monitoring and Control**
Deploy a unified platform to monitor, manage, and control edge devices and systems across distributed environments.
- **Automated Device Onboarding and Configuration**
Simplify deployment by automating the registration, provisioning, and configuration of edge devices to ensure consistency and scalability.
- **Robust Security Measures**
Implement security protocols such as encryption, authentication, password rotation, and regular firmware updates to protect edge devices and data.
- **AI/ML Ops**
Harnessing localized data processing and AI/ML capabilities at the edge to enable real-time insights and decision-making.
- **Advanced Analytics**
Optimize operations with predictive analytics and preventative maintenance insights.

Customers adopting our solutions get the below benefits

➤ **Visibility and Remediation**

Manage devices regardless of make or model, detect issues quickly, and automate self-healing. Remote troubleshooting and secure identity management are also supported.

➤ **Cost Savings through Productivity and Automation**

Track device uptime and failures, use AI-driven predictive maintenance, and automate tasks for higher productivity and cost efficiency.

➤ **Security across Devices**

Receive alerts for configuration changes, apply secure firmware updates remotely, and manage user credentials for compliance.

➤ **Enterprise Integrations**

Seamlessly integrate alerts into communication channels and incident workflows, enhancing operational efficiency.

➤ **Usage and Planning Insights**

Analyse device health and vulnerabilities, plan hardware/software refreshes, and gain performance insights for asset management.

➤ **Unified Asset Management**

Keep up-to-date asset information, track device movements, and manage compliance metrics.

➤ **Integrated Risk Management and Compliance**

Manage risk scores and compliance through real-time asset visibility, integrating compliance tasks into workflows.

➤ **Extensibility and Scalability**

Support for a wide range of devices from various vendors, scalable across multiple locations.

A solution designed to make physical security teams more efficient, cost-effective, and secure, addressing the needs of multiple enterprise stakeholders.

We at Galaxy can help you design & implement a solution designed to make physical security teams more efficient, cost-effective, and secure, addressing the needs of multiple enterprise stakeholders in your organization.

To talk to our experts, email us at marketing@goapl.com

Postman Launches New Platform That Lets Developers Build AI Agents

Postman is helping make it easier for developers to design, test, and deploy AI agents with the launch of its AI Agent Builder tool.

According to the company, the rise of AI agents represents a shift in how software systems are being built and run. "As agents gain traction, we could see a 10X-100X increase in API utility, enabling software systems to execute increasingly complex workflows. Today humans remain 'in the loop', but this will evolve where humans step out entirely depending on trust, and risk factors," Abhinav Asthana, co-founder and CEO of Postman, wrote in a blog post in December.

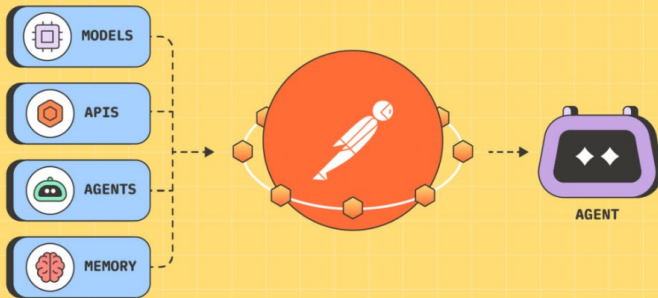
Postman's AI Agent Builder provides a centralized platform for discovering LLMs and APIs. Developers can compare responses, cost, and performance of a variety of LLMs, including OpenAI's ChatGPT, Google's Gemini, Anthropic's Claude, Cohere, and Meta's Llama.

The platform provides access to APIs from all of Postman's verified publishers, like Salesforce, PayPal, and UPS. This will help ensure that agents are built upon accurate and reliable tools, Postman explained.

Additionally, developers will be able to leverage the company's no-code canvas, Postman Flows, to set up agents and multi-step workflows.

Other features currently on the roadmap for the AI Agent Builder tool include the ability to deploy agents and workflows to the cloud and real-time monitoring of deployed Flows.

"The rise of agentic AI marks a pivotal shift in how software systems will be built and operated. This wave will highlight a truth that many engineering leaders are just beginning to realize: the power to deliver AI solutions lies in their APIs. At Postman, we're excited about this future and remain focused on helping developers and customers thrive in an API-first world," Asthana wrote.



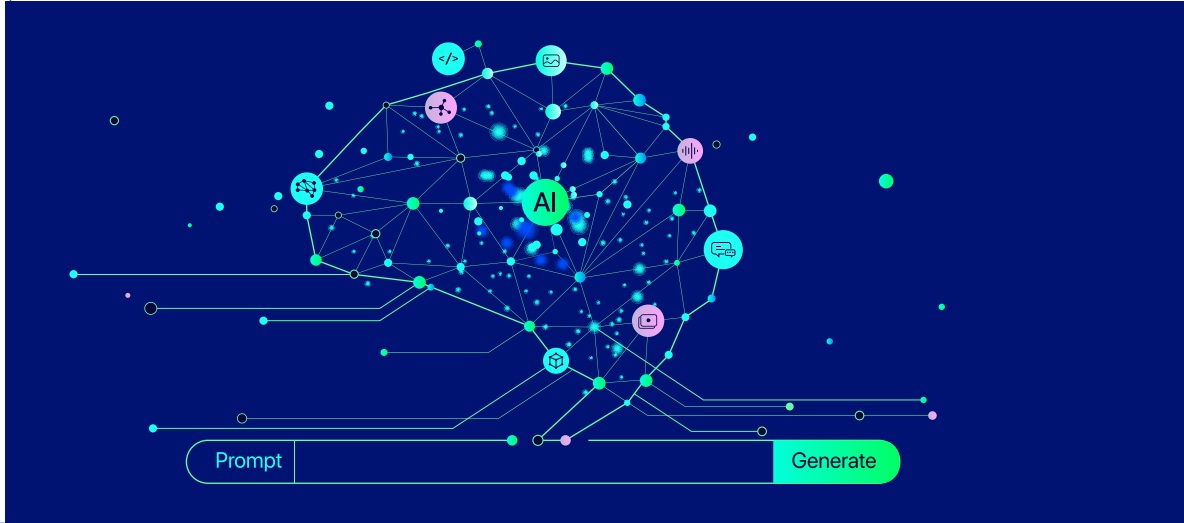
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GenAI May Generate 20-40% Productivity Gains, No Risk to Tech Spends: Axis Capital Report

Generative AI (GenAI) could generate savings of 20-40% in the software development lifecycle, and savings from efficiency gains will likely be ploughed back into the business to chase more tech innovation, according to Axis Capital report. Given that savings are expected to be infused back into innovative tech for better business, GenAI is unlikely to compress tech spending.

Researchers from leading institutes who tracked productivity gains across about 5,000 developers in three organisations found AI-boosted software developer productivity by 26%.

"Interest in and use of AI is growing rapidly - Microsoft GitHub Enterprise saw client interest in AI projects grow 100% in an 18-month period with actual use growing 11.5%," the report cited.



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