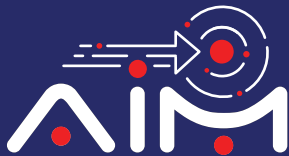


TECH TALK

Issue 172
October 2026

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



Galaxy Office Automation Pvt. Ltd.



A Recognition that Strengthens Our Commitment to Smarter Storage

We are proud to be recognised by Dell Technologies as a Storage Solution Business Champion. This recognition reflects our continued focus on helping enterprises build secure, scalable and future-ready storage environments that support business growth and digital transformation. From data centre modernisation and high-performance storage to data protection, backup and hybrid cloud environments, our teams continue to work closely with customers to address evolving data demands and deliver measurable business outcomes.

A big thank you to Dell Technologies for this recognition and to our customers and team for the trust and partnership that make achievements like this possible. Together, we continue to turn data into a business advantage.

Foreword

Dear Readers,

With great pleasure and pride, I am announcing the launch of our AI-powered IT products: Auxhealium™ for Autonomous IT Support and Protaiago™ for Intelligent IT Monitoring. Both have been developed entirely by our own engineers, with zero outsourcing. This is a proud moment for everyone at Galaxy, and I thank all our stakeholders for the vision, encouragement, and support that helped us reach this stage.

Auxhealium is an autonomous IT support platform for enterprise customers. It moves beyond chatbot-style triaging to resolve IT tickets end to end, targeting the escalation burden that IT teams face. Traditional IT service management tools guide a user through troubleshooting steps and then escalate whatever remains unresolved. Auxhealium combines guided troubleshooting, deep enterprise knowledge retrieval and self-healing automation in a single platform. It is designed to learn from an organisation's own support history, turning institutional IT expertise into automation that improves with every interaction.

Protaiago is an AI-driven intelligence and autonomous operations layer that can work independently or alongside an enterprise's existing monitoring and observability environment. Existing systems continue to collect and expose telemetry, while Protaiago adds predictive analytics, anomaly intelligence, causal and dependency analysis, AI-assisted root cause investigation, conversational operational intelligence and governed remediation.

Most traditional monitoring answers one question: what happened? Protaiago extends operations to a broader set of questions. What is happening now? What is likely to happen, and when? How long could the condition persist? Why is it happening? What could be affected? What should the operations team do next? Can an approved corrective action be executed safely? To answer them, Protaiago brings together statistical analytics, machine learning, causal intelligence, Generative AI, and multi-agent workflows, helping enterprise IT teams move from reactive monitoring toward predictive and increasingly automated operations.

We have brought all of our 38 years of experience in IT deployments, support and monitoring into these products. Both are now available for enterprise pilots and deployments in India. Do reach out to us for a demo or a PoC.

Happy reading!

Anoop Pai Dhungat
Chairman & Managing Director



Future is now!



Spider-inspired four-legged robot boat could track and retrieve people from water

A four-legged robotic boat inspired by fishing spiders could help rescue people from drowning by tracking and retrieving victims directly from the water. Developed by researchers at the Shenzhen Institute of Artificial Intelligence and Robotics for Society (AIRS) in China and Stevens Institute of Technology in the US, the robot, called QuadBoat, is designed to move across the water while actively tracking floating targets.

The researchers say most existing unmanned surface vehicles (USVs) used in search-and-rescue missions are built mainly to locate or approach people in distress. QuadBoat is designed to go a step further by physically retrieving targets from the water. The robot has a central body and four independently controlled legs. Its design takes inspiration from fishing spiders, which use their long, water-repellent legs to move across the surface of calm water. Unlike fishing spiders, QuadBoat does not rely on surface tension to stay afloat. Instead, the robot uses conventional buoyancy while its four legs provide

Four legs take water

propulsion and maneuverability.

An inverse kinematics controller coordinates the movements of the legs, allowing the robot to adjust its posture and move in different directions. The researchers also developed control systems combining model predictive control and proportional-integral-derivative control to steer and stabilize the robot.



“QuadBoat features a quadrupedal robot configuration, enabling it with highly adaptable and agile maneuverability through its actively adjustable posture,” wrote the authors.

“Employing an inverse kinematics-based controller and cascaded model predictive control (MPC)-PID controller for overall movement, QuadBoat can accurately track and retrieve objects on the water surface.”

The team tested the robotic boat in a pool, first

examining how accurately it could follow planned routes and execute specific movements. Further experiments focused on its ability to identify, track and retrieve floating targets.

The tests also included visual tracking and object pickup experiments conducted in indoor and outdoor settings. The researchers said these trials demonstrated that QuadBoat could follow targets on the water and carry out retrieval tasks relevant to rescue operations.

Robot tracks victims, retrieves

The system is aimed at a critical gap in maritime search and rescue. Finding a person in the water is only part of the challenge. Rescue teams must also reach the victim and remove them from the water quickly, particularly when exhaustion, cold or rough conditions could make survival more difficult.

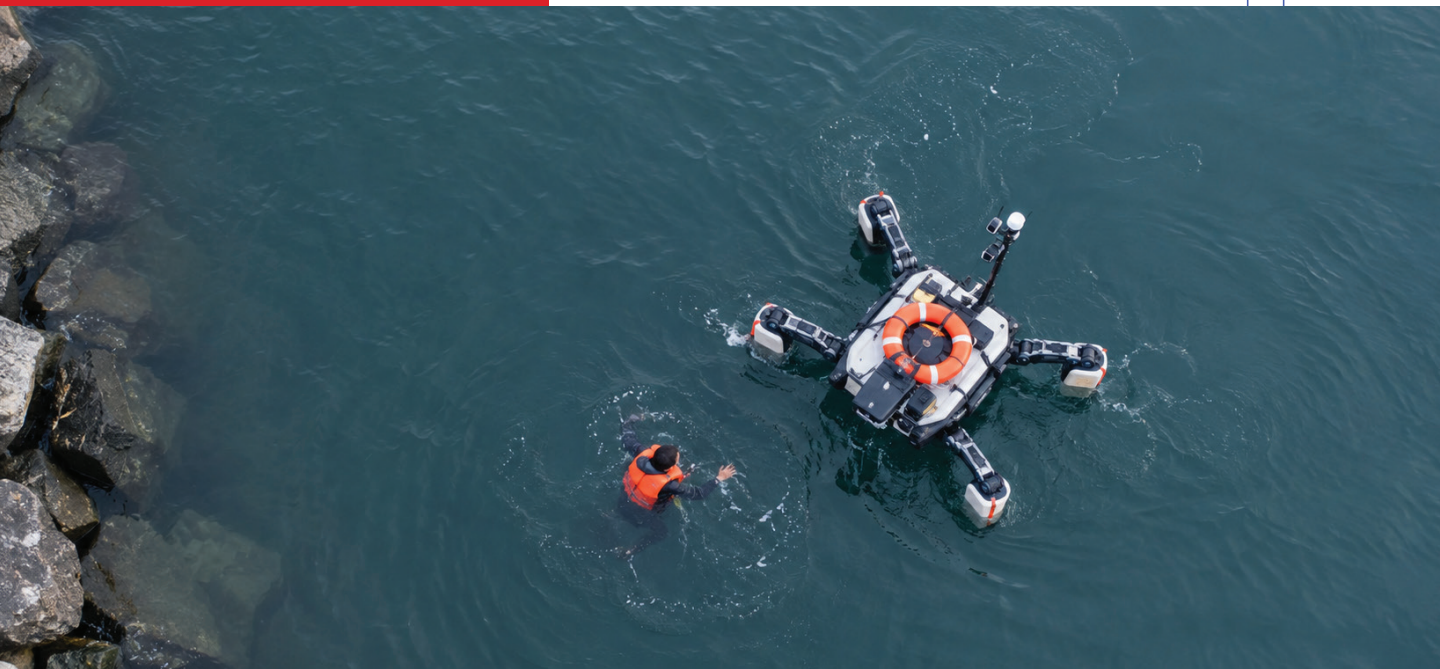
“The prompt extraction of victims from water is crucial in water surface rescue missions,” wrote Lianxin Zhang, Yihan Huang and Huihuan Qian in their paper. “However, previous research on rescue robots has seldom addressed this issue. This paper presents QuadBoat, a bio-inspired USV designed to track and retrieve victims from water.” The researchers believe the robot could eventually assist

emergency teams responding to boat crashes and other maritime accidents. Its ability to move and adjust its posture could also make it useful in situations where conventional USVs may struggle to maneuver close to a person.

However, QuadBoat is still at the research stage. The initial demonstrations were conducted in controlled environments, and further work will be needed to determine how the robot performs in waves, currents, and other conditions encountered during real rescue missions.

The researchers say future development could help turn the spider-inspired design into a practical tool for search-and-rescue teams, giving responders another way to locate, track and retrieve people from the water.

Read more →





Conversational AI: The Future of Human-Machine Interaction

Conversational Artificial Intelligence (AI) refers to systems that allow humans to interact naturally with machines through text, speech, or other modalities. Unlike rule-based chatbots, modern conversational AI uses natural language processing (NLP) and machine learning (ML) to understand intent, generate responses, and improve continuously through feedback. These systems are no longer limited to answering simple queries. They are evolving into multimodal, multi-agent ecosystems that engage across voice, text, images, and video, providing context-aware, intelligent recommendations for enterprises and individuals.

1 Machine Learning (ML):

ML algorithms underpin conversational AI by recognizing patterns, adapting to feedback, and personalizing interactions.

2 Natural Language Processing (NLP):

NLP converts unstructured user input into machine-readable form.

- **Input Generation:** User provides text, speech, or multimodal input.
- **Input Analysis:** NLU and ASR decipher meaning and intent.
- **Dialogue Management:** NLG generates appropriate, contextual responses.
- **Reinforcement Learning:** Systems refine accuracy through experience.

3 Dialogue Orchestration:

Moving beyond single-turn responses, modern systems manage context across sessions, learning from history and tailoring answers accordingly.

Galaxy's Perspective: Beyond Text and Voice

At Galaxy, we see conversational AI as a multimodal intelligence layer that bridges human interaction with enterprise systems:



Text & Voice: Natural interfaces for everyday use.



Images & Video: Uploading product visuals, analyzing medical scans, or interpreting documents.



Sensor & IoT Data: Conversational triggers from wearables, devices, and infrastructure.

This multimodal expansion allows AI systems to function as true interaction hubs. For example:



A retailer can enable customers to show an image of a damaged product while explaining the issue verbally, with the system initiating a replacement process.



In healthcare, a patient can share lab reports, describe symptoms by voice, and receive AI-driven recommendations synthesized across text and visual data.

Multi-Agent Architectures

Future conversational AI will be built on multi-agent frameworks. Instead of one monolithic assistant, specialized agents will collaborate:

- **Planner Agents** break down user goals.
- **Domain Agents** handle vertical-specific knowledge (finance, healthcare, retail).
- **Predictive Agents** connect with forecasting and optimization models.
- **Compliance Agents** ensure safety, accuracy, and guardrails.

This modularity makes systems more scalable, adaptable, and enterprise-ready.

Path to Building Advanced Conversational AI

To design meaningful conversational systems, enterprises should:

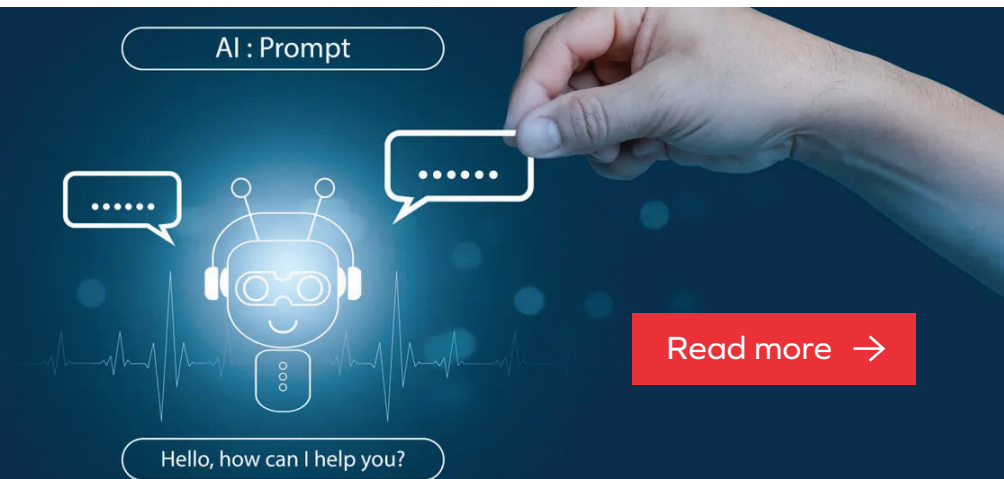
- **Understand User Needs:** Map the primary interaction points and goals.
- **Adopt Multimodal Interfaces:** Go beyond text and voice to include images, video, and sensor streams.
- **Integrate Predictive Insights:** Connect conversations to recommendation engines where relevant.
- **Leverage Multi-Agent Systems:** Build modular agents with orchestration rather than rigid workflows.
- **Continuously Improve:** Use reinforcement learning and fine-tuning to adapt over time.

The Road Ahead

Conversational AI is shifting from reactive Q&A tools to intelligent, multimodal companions. With the integration of images, video, and predictive models, and with multi-agent orchestration, they will deliver richer, context-aware, and business-aligned experiences

Galaxy envisions conversational AI not just as a support tool but as a strategic intelligence layer for enterprises, turning everyday human-machine interactions into opportunities for insight, action, and measurable value. Our expertise ensures your business stays ahead in the AI era

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



Database Activity Monitoring: Strengthening Data Security, Compliance & Threat Protection



Modern enterprise databases store the critical intelligence, financial records, and personal data that drive organizational success. Database Activity Monitoring (DAM) provides real-time visibility, automated auditing, and proactive security controls across all database environments—ensuring robust defense against insider threats, external breaches, and compliance violations.

Understanding Database Activity Monitoring (DAM)

Database Activity Monitoring (DAM) is a specialized security technology designed to continuously observe, analyze, and audit all transactions and queries executed within an organization's database infrastructure. Unlike traditional network firewalls or native database auditing tools, DAM operates independently to capture full operational context without impacting database performance.

At its core, DAM monitors SQL traffic, privileged administrative accounts, application-tier queries, and direct database access across structured data repositories (e.g., Oracle, MS SQL Server, PostgreSQL, MySQL) as well as NoSQL and cloud data stores.

Core Architecture & Capabilities



Real-Time Traffic Inspection: Utilizes lightweight network taps, host agents, or cloud API integrations to inspect every query in real time.



Behavioral Baseline & Anomaly Detection: Establishes normal activity profiles for users and applications to flag suspicious deviations immediately.



Separation of Duties (SoD): Operates on dedicated audit storage so database administrators (DBAs) cannot tamper with audit logs.



Automated Policy Enforcement: Triggers instant alerts, terminates malicious sessions, or blocks unauthorized queries dynamically.

How DAM Transforms Organizational Security

Implementing an enterprise DAM solution address critical operational, security, and governance challenges across modern IT environments:

Key Pillar	Strategic Value & Impact
 Privileged User Monitoring	Tracks high-risk DBA actions, superuser activities, and third-party vendor sessions to prevent insider threat exploitation and misuse of administrative rights.
 Cyber Attack Defense	Detects and blocks SQL Injections (SQLi), zero-day exploits, unauthorized schema modifications, and mass data extraction attempts in real time.
 Regulatory Compliance	Simplifies adherence to PCI-DSS, HIPAA, GDPR, SOX, and ISO 27001 by automating audit trail logging, report generation, and compliance verification.
 Operational Efficiency	Replaces resource-heavy native database logging, reducing server CPU overhead while centralizing multi-database security management into a single console.

Implementation Best Practices

Comprehensive Asset Discovery: Identify and catalogue all sensitive data stores across on-premises servers, cloud instances, and hybrid environments before defining policies.

- **Integration with SIEM & SOAR:** Stream DAM telemetry into centralized enterprise platforms (e.g., Splunk, Microsoft Sentinel) for unified incident response.
- **Fine-Tuned Rule Engines:** Establish clear policy baselines to minimize alert fatigue, focusing automated alerts on high-risk actions (e.g., DROPs, bulk EXPORTs).
- **Continuous Audit Readiness:** Automate out-of-the-box compliance reporting schedules to satisfy external auditors with tamper-proof records.

As database environments expand across hybrid multi-cloud landscapes, traditional security measures are no longer sufficient to safeguard core intellectual and financial assets. A robust Database Activity Monitoring (DAM) solution empowers organizations with deep visibility, threat containment, and streamlined compliance, ensuring that critical enterprise data remains protected against internal and external threats.

To connect with our experts, write to us at marketing@goapl.com



Google is firing the first salvo in a brewing race to deploy AI data centers in orbit

As rural communities across the United States wage intensifying battles to keep AI-computing data centers out of their backyards, some tech giants are mulling methods that could sidestep such local resentment - by sending the facilities to space.

There are no guarantees the technology will work, nor is it clear whether sending data centers to Earth orbit will make economic sense. But Google is testing the waters. The company is set to launch its first test satellite for Project Suncatcher, its orbital data center initiative. The prototype took off aboard a SpaceX Falcon 9 rocket on a rideshare mission called Transporter-18 on Thursday from Vandenberg Space Force Base in California. It's not the first time AI chips have been tested in space.

But Google's experimental satellite is designed to figure out specifically how the company's tensor processing units, or TPUs, perform after undergoing the jarring forces associated with launching to orbit atop a rocket and being battered by the radiation-riddled environment of space.

"This first launch is about seeing what works, identifying points of failure, and applying those findings to future missions," Travis Beals, Google's senior director of paradigms of intelligence Google intends to continue its research in 2027 by sending up two additional satellites.

[Read more →](#)



World's First Enhanced Geothermal Plant Goes Live — Built in Just 23 Months.

Geothermal company Fervo Energy announced that it had started selling electricity from its Cape Station power plant to the grid, ahead of schedule.

With it, Fervo becomes the first enhanced geothermal company to reach a key commercial milestone. The power plant synchronized with the grid, bringing online the first third of what will soon become a 100-megawatt power plant.

The entire site could be much larger, though, with the potential to generate as much as 4 gigawatts of electricity.

"No team has ever built a project like this anywhere in the world, and we did it ahead of schedule," Fervo co-founder and CEO Tim Latimer said in a statement.

From groundbreaking to commercial operations, the first block at Cape Station took 23 months to complete. As Fervo refines its process, it is aiming to complete future blocks in as little as 18 months.

That sort of speed to power should appeal to power-starved data center operators, who have been scouring every part of the energy sector for generating capacity. Geothermal can also be developed in phases, similar to how data centers are

developed, allowing hyperscalers to bring racks online as demand ramps up.

Google, Southern California Edison, and others have committed to buying power from Fervo's Cape Station project, which is located in Utah.

Fervo is one of several companies developing enhanced geothermal power plants. While traditional geothermal power taps heat sources close to the surface, Fervo and its peers are drilling deeper because deeper rock is hotter, opening more opportunities for development.

Fervo went public in an upsized IPO that raised \$1.9 billion. It was founded in 2017, bringing drilling techniques and technologies from the oil and gas sector to the development of new geothermal resources. As a startup, the company raised more than \$1.3 billion from investors, including Breakthrough Energy Ventures, Congruent Ventures, and Capricorn Investment Group.

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