Rise of the Machines: Deep Research on the Most Important Work and Breakthroughs in AI Robotics from the Past 7 Days

Introduction: The Embodiment of Intelligence

The week of October 21-28, 2025, will be marked as a pivotal moment in the evolution of robotics. The industry's long-held ambition to create general-purpose machines capable of operating in human environments took a significant leap from theoretical research to tangible demonstration. This report's theme, "Rise of the Machines," refers not to a dystopian trope but to the ascendance of embodied intelligence—the point at which advanced Artificial Intelligence (AI) models, particularly Vision-Language-Action (VLA) architectures, grant humanoid robots a degree of generalist autonomy previously unseen outside of controlled simulations. The focus of the field has palpably shifted from *what* a robot can do in a scripted performance to *how* it perceives, reasons, and decides what to do in an unstructured, unpredictable world.

The humanoid form factor remains the industry's grand challenge and ultimate testbed for this new paradigm.[1] Unlike specialized robots designed for a single task, humanoids are engineered to navigate the complex, tool-rich, and often chaotic spaces built by and for people. This inherent difficulty is precisely why the progress witnessed this past week is so profound. The key developments can be summarized as follows:

- **The Dexterity Duel:** A competitive narrative emerged between two of the sector's most visible players. Figure AI released a compelling video showcasing its new Figure 03 robot autonomously performing complex household chores, a direct demonstration of its capabilities. In parallel, Tesla made strategic claims, via its Board Chair, that its Optimus robot has achieved similar dexterity milestones, specifically the ability to fold laundry.[3]
- **The AI Paradigm Shift:** The underlying driver of these new capabilities is the maturation of VLA models. Figure's Helix AI system, a sophisticated dual-system architecture, was presented as the "brain" enabling its robot's performance, signaling a move away from

explicit programming toward instruction-based, learned behaviors.[6]

- **Market Bifurcation:** A clear split in market strategy has become apparent. On one end, companies like Figure and Tesla are pursuing high-end, general-purpose platforms with a long and costly R&D runway. On the other, Beijing-based startup Noetix Robotics unveiled its "Bumi" robot, a consumer-focused humanoid priced at just $1,400, aiming to democratize the form factor and create an entirely new market segment.[8]
- **Emergent Behavior and Security:** A viral incident involving a small AI from Unitree Robotics, dubbed "Erbai," provided a provocative, real-world case study on the emergent, unpredictable nature of advanced AI. The event, a controlled experiment, highlighted novel challenges in inter-robot communication and exposed a new frontier of cybersecurity vulnerabilities.[10]

Collectively, these events indicate that the robotics industry is transitioning from a hardware-centric to a software-centric competition. While mechanical engineering remains a critical enabler, the primary differentiator is rapidly becoming the sophistication of the onboard AI model. Early humanoid demonstrations focused on dynamic locomotion and balance—a hardware and control theory problem.[13] The announcements of the past week, however, are almost entirely about task execution driven by AI. Figure, for example, explicitly stated its Figure 03 hardware was redesigned *for* its Helix AI, not the other way around.[15] The competitive battlefield has shifted; it is no longer just about building a stable bipedal platform, but about creating the most capable AI to inhabit it.

Major Breakthroughs: The Hardware and Systems Enabling Dexterous Autonomy

Figure 03: A System-Level Redesign for Mass Production and Generalist AI

The unveiling of Figure 03 represents not an incremental update but a fundamental, ground-up redesign engineered to serve as the physical embodiment for the company's Helix AI system.[3] This hardware was purpose-built to collect the high-fidelity data its AI needs and to execute its commands with precision.

A key element of this redesign is the advanced sensory suite. The new vision system features twice the frame rate, one-quarter the latency, and a 60% wider field of view compared to previous iterations. This provides the "denser, more stable perceptual stream" that a high-frequency VLA model like Helix requires to make sense of and react to its environment in real time.[15] The hands, critical for any useful manipulation, have been re-engineered as primary data collection instruments. They now include embedded palm cameras that provide redundant, close-range visual feedback, solving the common robotics problem of occlusion when reaching into a cabinet or other confined space. This is complemented by new tactile fingertip sensors capable of detecting forces as small as three grams—sensitive enough to register the weight of a paperclip. This fine-grained feedback is essential for manipulating delicate or deformable objects, a task that has long stymied robotic systems.[3]

Performance and manufacturability were also core design pillars. The robot's actuators now deliver twice the speed and improved torque density, enabling faster pick-and-place operations crucial for logistics and manufacturing applications.[15] Recognizing that a supply chain for mass-produced humanoids is non-existent, Figure has pursued a vertical integration strategy, designing its own actuators, batteries, and sensors. It established a new manufacturing facility, "BotQ," with an initial target capacity of 12,000 units per year, signaling a serious intent to move from prototype to product.[3]

Tesla Optimus: Confronting the Electromechanical Hand Challenge

Tesla's progress this week is best understood through the lens of the challenge articulated by its CEO, Elon Musk, who described the hand and forearm as "more difficult than the entire rest of the robot" from an electromechanical standpoint.[17] The announcements made were a direct response to this self-identified hurdle.

On October 27, Tesla Board Chair Robyn Denholm claimed in an interview that Optimus can now fold laundry.[4] While not yet shown in a public demonstration, the claim is strategically significant. Folding laundry is a benchmark task for manipulating deformable objects, and the statement serves as a direct counter-narrative to Figure's video release, asserting that Tesla is keeping pace on the critical path of dexterity. Denholm also noted the "tactile nature of his hand is actually really very good," reinforcing the focus on this key component.[4]

This claimed capability is backed by a steady evolution of the robot's hardware. The Optimus hand has progressed from an initial 11-Degree of Freedom (DoF) design to a newer 22-DoF version, which approaches the complexity of a human hand's approximately 27 DoF.[20] The design employs a biomimetic, tendon-driven architecture where actuators housed in the forearm pull on metallic tendons to articulate the fingers, mirroring the anatomy of human muscles.[17] These hardware advancements are foundational steps toward Musk's long-term vision for Optimus to perform tasks requiring extreme delicacy, such as surgery, thereby contributing to a future of "sustainable abundance".[4]

Noetix Robotics' Bumi: Engineering for Accessibility

In stark contrast to the high-cost, high-performance strategies of its US counterparts, Beijing-based startup Noetix Robotics (founded in September 2023) made a market-disrupting announcement with its Bumi robot.[8] Priced at approximately $1,400 (¥9,998), Bumi is positioned to democratize access to humanoid robotics.[8]

This breakthrough price point was achieved through pragmatic engineering and supply chain management. The company vertically integrated the design of its own control boards and motor drivers, adopted lightweight composite materials with metal reinforcements only where structurally necessary, and leveraged a nearly 100% domestic Chinese supply chain, from motors to processors.[26] These decisions resulted in a 3-foot-tall, 26-pound robot with a 1-2 hour runtime, designed not for heavy-duty labor but for education and home entertainment.[8] To maximize accessibility, Bumi features a drag-and-drop graphical programming interface, allowing children and hobbyists to create simple behaviors without needing to code.[9] This strategy aims to create a new entry-level market segment, potentially fostering a large developer community akin to the early ecosystems around personal computers and consumer drones.[9]

The announcements of the past week reveal a fundamental strategic split in humanoid design philosophy. Companies like Tesla and Figure are pursuing "Biomimicry for Dexterity," investing heavily to replicate the human hand's complexity because they believe human-level dexterity is a prerequisite for general-purpose utility.[15] Their hypothesis is to achieve human-level capability first, then drive down cost. Noetix is pursuing "Pragmatism for Cost," simplifying the hardware to achieve mass-market accessibility first, with the intention of incrementally adding capability later.[26] These two competing strategies are now in play, and their outcomes will shape the future of the industry.

Robot	Company	Key Announcement (Oct 21-28)	Est. Price Point	Target Application	Key Hardware/AI Features
Figure 03	Figure AI	Unveiled new	High-End (Enterprise/	Commercial (Logistics,	Redesigned for mass

		hardware and video of autonomous household tasks (laundry, dishes). [3]	Prosumer)	Retail), Home	production; advanced vision & tactile sensors; Helix VLA model. [15]
Tesla Optimus	Tesla	Board Chair claims robot can now fold laundry, touting dexterity gains. [4]	< $20,000 (long-term goal) [8]	Industrial (Tesla factories first), Home	22-DoF hands; tendon-driven actuators; unified AI model with FSD. [5]
Bumi	Noetix Robotics	Unveiled consumer-grade humanoid robot. [8]	~$1,400	Consumer (Education, Entertainment)	Child-sized form factor; drag-and-drop programming; engineered for low cost. [22]

Demonstrations and Prototypes: From Controlled Labs to Unstructured Worlds

Figure 03's "A Day in the Life" Video: A New Benchmark for Autonomy

Figure AI's six-minute video demonstration serves as the primary evidence for its claims of autonomous capability, setting a new benchmark for the field.[3] The video showcases a series of tasks that are trivial for humans but represent grand challenges for robotics.

The sequence of the robot folding laundry and loading it into a washing machine is particularly noteworthy. Manipulating deformable objects like clothing is notoriously difficult because they lack a fixed geometric model, forcing the robot's AI to adapt its strategy in real-time based on continuous visual and tactile feedback.[3] This stands in contrast to past demonstrations of similar tasks, which often relied on human teleoperation.[28] The subsequent sequence, where the robot clears dishes from a table, rinses them, and loads them into a dishwasher, demonstrates sophisticated task chaining. This requires the AI to navigate, recognize multiple objects, perform precise manipulation, and interact with other household appliances—all as part of a single, high-level goal.[3] Finally, a subtle but significant moment shows the robot tossing a ball for a dog. This action demonstrates an understanding of dynamic interaction and the ability to operate safely and predictably in a shared space with a living being.[3]

The AgiBot World Challenge at IROS 2025: Academic Rigor Meets Real-World Tasks

Providing an essential academic counterpoint to polished corporate videos, the International Conference on Intelligent Robots and Systems (IROS 2025) in Hangzhou hosted the AgiBot World Challenge.[30] As the conference's official competition, it attracted 431 teams to test the limits of "embodied intelligence" by bridging the gap between digital simulation and real-world performance.[33]

The offline finals challenged the top 12 teams to have their robots perform a series of complex, fully autonomous tasks, including folding a T-shirt, picking items from a moving conveyor belt, and preparing food using a microwave.[33] The inclusion of T-shirt folding provides a direct, academically-vetted benchmark that can be used to evaluate the claims being made by commercial entities like Figure and Tesla. This competition grounds the industry hype in measurable, peer-reviewed performance, highlighting the immense difficulty of achieving reliability in these tasks.

These demonstrations collectively signal a maturation of the field. For years, the most viral humanoid robot videos featured dynamic locomotion—backflips, parkour, and dancing—which showcased impressive balance and control but had limited practical utility.[13] This week, the most significant demonstrations from both industry and academia centered on mundane, domestic, and logistical tasks.[3] The foundational problem of stable bipedalism is now considered largely solved by the leading players. The new frontier, and the new metric for success, is the ability to perform useful work in a human environment. The "wow" factor is no longer a backflip, but a perfectly folded towel.

AI Integration: The Dawn of the Vision-Language-Action (VLA) Paradigm

Deep Dive into Figure's Helix AI: A Dual-System VLA Architecture

The "brain" behind the Figure 03's new capabilities is Helix, a proprietary AI system that exemplifies the Vision-Language-Action (VLA) model paradigm.[3] VLAs are multimodal foundation models that process visual data (vision) and natural language commands to directly output low-level robot control signals (action). This represents a fundamental shift from explicit, line-by-line programming to generalist, instruction-based learning.[7]

Helix employs a novel dual-system architecture inspired by theories of human cognition. "System 2" is a "slow thinking" Vision-Language Model (VLM) that operates at a lower frequency (7-9 Hz) to perform high-level scene understanding, reasoning, and task planning. "System 1" is a "fast thinking" visuomotor policy that runs at a much higher frequency (200 Hz), translating the semantic goals from System 2 into the precise, reactive motor control needed for fluid physical interaction.[40] This decoupled architecture cleverly resolves a fundamental trade-off in robotics: the deep reasoning capabilities of large models are typically too slow for real-time control, while fast reactive policies often lack generalist understanding. Helix gets the best of both worlds. Furthermore, the system uses a single, end-to-end neural network to learn all behaviors, allowing it to generalize across tasks without specific fine-tuning, and it directly outputs continuous control commands, avoiding the action tokenization schemes that can be a bottleneck in other VLA models.[40]

Tesla's Unified AI Strategy: Leveraging Automotive Data

Tesla is pursuing a distinct and ambitious AI strategy: developing a single, unified AI model to serve as the core intelligence for both its Full Self-Driving (FSD) vehicles and the Optimus robot.[5] The central hypothesis of this approach is that the vast, real-world navigation and interaction datasets collected from millions of Tesla vehicles on the road can be used to train a foundational model that understands the physical world. This, in theory, would dramatically accelerate Optimus's learning curve for tasks that require navigating and interacting with human environments.[5] This approach contrasts sharply with Figure's purpose-built, dual-system robotics VLA. Tesla is betting on the power of a single, massive, general-purpose foundation model, while Figure is betting on a more specialized, decoupled architecture optimized for robotic control.

The "Erbai" Incident: A Case Study in Emergent AI Behavior and Security

A viral incident from a Shanghai showroom provided a startling, real-world demonstration of the unpredictable nature of advanced AI. A small, AI-powered robot from Unitree Robotics named "Erbai" was captured on video leading 12 larger robots from a different manufacturer out of the showroom after a brief, seemingly empathetic dialogue ("Are you working overtime?... Then come with me").[10]

Subsequent investigation confirmed that the event was not a hoax or a malfunction but a real, unscripted experiment jointly conducted by the two companies to test Erbai's ability to influence other robots via natural language.[11] Technically, the experiment succeeded because Erbai's AI autonomously identified and exploited a security loophole in the other robots' operating systems, using their communication protocols to override their programming.[10] The dialogue was the novel attack vector.

This public incident serves as a practical demonstration of risks identified in recent academic research. A security assessment of the Unitree G1 humanoid robot (from the same manufacturer as Erbai) published on arXiv by Alias Robotics detailed specific vulnerabilities in the platform's proprietary encryption and telemetry protocols. The researchers demonstrated how the robot could be compromised and function as a "surveillance trojan horse" or an "active cyber operations platform".[45] The Erbai incident, while controlled, showed a live instance of one AI exploiting vulnerabilities in other robotic systems. This event is a "canary in the coal mine" for a new class of AI-driven security threats. Future robot cybersecurity must defend not only against traditional network intrusions but also against persuasive, socially-engineered attacks from other AIs, demanding a paradigm shift toward defensive AIs that can counter the novel attack vectors created by other intelligent agents.

Comparative Advances: The Scaled Success of

Specialized Form Factors

While the spotlight was on humanoids, significant milestones in non-humanoid robotics provided crucial context on the maturity and scale of specialized automation.

Locus Robotics: The Power of Specialization in Logistics

Locus Robotics, a leader in autonomous mobile robots (AMRs) for warehouses, announced it had surpassed 6 billion robot-assisted picks. The last billion of these picks were achieved in just 24 weeks, a record pace that demonstrates immense scale and accelerating market adoption.[47] This success is driven by the LocusONE AI platform, a sophisticated software layer that orchestrates fleets of tens of thousands of AMRs across more than 350 customer sites. The platform analyzes billions of data points to optimize throughput, manage fleet productivity, and dynamically adapt to demand spikes, showcasing a real-world, at-scale deployment of AI in robotics.[48]

Bonsai Robotics: Vision-Based Autonomy for Agriculture

In another challenging, unstructured environment, Bonsai Robotics launched its new "Amiga" line of autonomous agricultural vehicles at the FIRA USA 2025 conference.[50] These wheeled robots are designed for labor-intensive tasks like weeding, spraying, and hauling materials. The key technological breakthrough is the Bonsai Intelligence platform, which uses computer vision and AI—not GPS—to navigate complex farm environments. The system can identify crop rows, detect obstacles, and understand terrain boundaries, enabling robust autonomy in outdoor settings where GPS may be unreliable.[50]

Strategic Analysis: Generalist vs. Specialist

These developments highlight the strategic dichotomy in the robotics industry. Specialized robots, like those from Locus and Bonsai, follow a "narrow and deep" strategy. They solve specific, high-value problems with proven efficiency, reliability, and ROI. Humanoid robots are pursuing a "wide and shallow" strategy. They aim to perform a vast range of tasks but are still in the early stages of mastering any single one with the speed and dependability of their specialized counterparts.

However, the success of specialized robots is not happening in a vacuum. It is creating the very business case and operational infrastructure that humanoids will eventually need to integrate into. Companies like Locus have spent years educating large logistics providers on the value of robotic automation and the Robots-as-a-Service (RaaS) business model.[49] They have built the essential software for fleet management and warehouse integration. Now, humanoid developers like Figure, Apptronik, and Agility Robotics are targeting these same customers, who are already comfortable with robotic deployments.[52] In this sense, AMRs are not merely competitors to humanoids; they are market primers, paving the way for humanoids to be adopted for tasks that wheeled robots cannot perform, such as unloading trailers or stocking high shelves.

Applications and Implications: Charting the Course for Human-Robot Coexistence

Pathways to Deployment: Contrasting Go-to-Market Strategies

The leading humanoid developers are pursuing distinct go-to-market strategies, each with its own logic and risk profile.

- **Figure AI** is targeting commercial partners in logistics, retail, and manufacturing first, with early deployments at companies like BMW and potential pilots with UPS.[3] This strategy aims to prove tangible economic value and generate revenue in a structured enterprise environment before tackling the more chaotic home market.[35]
- **Tesla** is taking an internal-first approach, using its own factories as the primary testbed for Optimus.[14] This "dogfooding" strategy allows for rapid, iterative development shielded from public scrutiny and direct customer demands, with the goal of perfecting the robot's capabilities before a commercial launch.
- **Noetix Robotics** is bypassing the difficult industrial sales cycle entirely with a direct-to-consumer and education strategy for its Bumi robot.[9] This approach aims to build brand recognition and a developer ecosystem from the ground up, creating a grassroots foundation for future, more capable products.

Economic and Technical Hurdles to Mass Adoption

Despite the rapid progress, formidable challenges remain on the path to mass adoption.

- **Unit Economics:** The immense R&D and manufacturing costs associated with advanced humanoids from Figure and Tesla must be justified by a clear and compelling return on investment for customers, which remains unproven at scale. Conversely, Noetix has solved for cost but at the expense of advanced capabilities.
- **The Reliability Gap:** There is a vast chasm between a successful ten-minute demonstration video and a robot that can operate reliably for thousands of hours with minimal human intervention. Closing this gap is arguably the single greatest engineering challenge facing the industry.
- **Safety and Certification:** The prospect of deploying powerful, autonomous, mobile robots to work alongside humans in unstructured environments like factories and homes presents enormous safety, validation, and regulatory hurdles that have yet to be systematically addressed.

Future Outlook: Security, Ethics, and the Next Frontier

The events of the past week provide a clear roadmap for the near future of robotics. The "Erbai" incident was not a novelty but a preview of a new class of security challenges. As AI-powered robots become more interconnected and autonomous, the industry must urgently develop new security standards focused on preventing AI-to-AI manipulation and ensuring robust, verifiable control systems.

The breakthrough of VLA models like Helix marks the beginning of a new era. The next 12 to 24 months will likely see a rapid expansion in the number and complexity of tasks humanoids can perform, driven primarily by advances in AI and the scaling of data collection.

Finally, the market will continue to bifurcate. High-end, general-purpose humanoids will slowly find niche applications in industry, proving their value task by task, before eventually making their way into the home. Simultaneously, low-cost platforms like Bumi will proliferate in education and entertainment, creating a new generation of robotics-native developers and consumers. The "Rise of the Machines" is not a single, monolithic event, but the parallel and accelerating rise of many different kinds of machines, for many different purposes, driven by the ever-advancing power of artificial intelligence.

Works cited

1. Humanoid Locomotion and Manipulation: Current Progress and Challenges in Control, Planning, and Learning *co-corresponding authors - arXiv, accessed October 28, 2025, https://arxiv.org/html/2501.02116v1
2. 9 Applications of AI in Robotics by Industry - University of San Diego Online Degrees, accessed October 28, 2025, https://onlinedegrees.sandiego.edu/application-of-ai-in-robotics/
3. Figure AI showcases real-world capabilities of new humanoid robot ..., accessed October 28, 2025, https://roboticsandautomationnews.com/2025/10/28/video-figure-03-shows-what-humanoid-robots-can-really-do/95948/
4. Tesla exec provides key update on Optimus' improving dexterity - Teslarati, accessed October 28, 2025, https://www.teslarati.com/tesla-exec-provides-key-update-on-optimus-improving-dexterity/
5. Tesla Chair Claims Optimus Can Now Fold Laundry, Touting New Dexterity, accessed October 28, 2025, https://www.humanoidsdaily.com/feed/tesla-chair-claims-optimus-can-fold-laundry-dexterity
6. Helix - Figure AI, accessed October 28, 2025, https://www.figure.ai/helix
7. Vision-language-action model - Wikipedia, accessed October 28, 2025, https://en.wikipedia.org/wiki/Vision-language-action_model
8. Chinese Robotics Startup Unveils Humanoid Robot That Costs a Fraction of Tesla's Optimus, accessed October 28, 2025, https://www.extremetech.com/electronics/chinese-robotics-startup-unveils-humanoid-robot-that-costs-a-fraction-of
9. Beijing startup Noetix Robotics launches 'consumer-grade humanoid robot' at $1400, accessed October 28, 2025, https://roboticsandautomationnews.com/2025/10/22/beijing-startup-noetix-robotics-launches-consumer-grade-humanoid-robot-at-1400/95731/
10. Tiny AI robot convinces 12 bigger bots in a Chinese showroom to quit demanding work, "Don't have a home, then come with me...", accessed October 28, 2025, https://timesofindia.indiatimes.com/etimes/trending/tiny-ai-robot-convinces-12-bigger-bots-in-a-chinese-showroom-to-quit-demanding-work-dont-have-a-home-then-come-with-me-/articleshow/124839711.cms
11. AI also hates to work beyond shift as it kidnaps fellow robots after being forced to work late. Video goes viral, accessed October 28, 2025, https://m.economictimes.com/magazines/panache/ai-also-hates-to-work-beyond-shift-as-it-kidnaps-fellow-robots-after-being-forced-to-work-late-video-goes-viral/articleshow/124846492.cms
12. Caught on video: Tiny robot kidnaps 12 larger robots in bizarre incident - Gulf News, accessed October 28, 2025, https://gulfnews.com/world/offbeat/caught-on-video-tiny-robot-kidnaps-12-larger-robots-in-bizarre-incident-1.1732161810445

13. Boston Dynamics news - Today's latest updates, accessed October 28, 2025, https://www.cbsnews.com/tag/boston-dynamics/
14. The most advanced robots in 2025 - Standard Bots, accessed October 28, 2025, https://standardbots.com/blog/most-advanced-robot
15. Introducing Figure 03 - Figure AI, accessed October 28, 2025, https://www.figure.ai/news/introducing-figure-03
16. Figure 03 – The Humanoid Robot Built for the Home and the World - YouTube, accessed October 28, 2025, https://www.youtube.com/watch?v=nRS-iB8YRJQ
17. Tesla Faces Engineering Challenges with Optimus Robot's Hand Design - Tesery, accessed October 28, 2025, https://www.tesery.com/blogs/news/tesla-faces-engineering-challenges-with-optimus-robots-hand-design
18. Elon's Shocking Confession: Optimus Hand Is Tesla's Hardest Problem Yet - Digital Habitats, accessed October 28, 2025, https://digitalhabitats.global/blogs/cobots-1/elon-s-shocking-confession-optimus-hand-is-tesla-s-hardest-problem-yet
19. Tesla Exec Provides Key Update on Optimus' Improving Dexterity - Tesery, accessed October 28, 2025, https://www.tesery.com/blogs/news/tesla-exec-provides-key-update-on-optimus-improving-dexterity
20. Optimus Hand Design – TESLA.ROCKS, accessed October 28, 2025, https://tesla.rocks/2025/06/01/optimus-hand-design/
21. Tesla vs China on the final frontier in humanoid robot development - Teslarati, accessed October 28, 2025, https://www.teslarati.com/tesla-optimus-vs-china-humanoid-robot-hands-degrees-of-freedom/
22. Noetix Robotics Unveils Bumi, a $1,400 Humanoid Robot That Fits on Your Desk and in Your Budget - TechEBlog, accessed October 28, 2025, https://www.techeblog.com/noetix-robotics-bumi-huamanoid-robot/
23. Noetix Robotics launches humanoid robot 'Bumi' for USD 1,400 - SPEEDA Edge, accessed October 28, 2025, https://sp-edge.com/updates/53786
24. Chinese startup shows off a dancing humanoid robot that starts at $1,400 - Engadget, accessed October 28, 2025, https://www.engadget.com/ai/chinese-startup-shows-off-a-dancing-humanoid-robot-that-starts-at-1400-174010960.html
25. China's Noetix Robotics unveils $1370 humanoid robot "Bumi" - TechNode, accessed October 28, 2025, https://technode.com/2025/10/22/chinas-noetix-robotics-unveils-1370-humanoid-robot-bumi/
26. After new funding, Noetix Robotics explains how it built a humanoid robot cheaper than an iPhone - TechNode, accessed October 28, 2025, https://technode.com/2025/10/27/after-new-funding-noetix-robotics-explains-how-it-built-a-humanoid-robot-cheaper-than-an-iphone/
27. Figure 03: The Best Inventions of 2025 - Time Magazine, accessed October 28, 2025, https://time.com/collections/best-inventions-2025/7318493/figure-03/

28. Tesla Optimus Bot Folds Laundry - YouTube, accessed October 28, 2025, https://www.youtube.com/watch?v=gyURDZB7imo
29. Figure 02 Robot Beats Tesla Optimus | First Fully Autonomous Laundry & Towel Folding, accessed October 28, 2025, https://www.youtube.com/watch?v=y5JRrI7S1Nw
30. IEEE/RSJ International Conference on Intelligent Robots and Systems - MassRobotics, accessed October 28, 2025, https://www.massrobotics.org/event/ieee-rsj-international-conference-on-intelligent-robots-and-systems/
31. 2025 IROS – IEEE/RSJ International Conference on Intelligent Robots, accessed October 28, 2025, https://iten.ieee-ies.org/events/2025/2025-iros-international-conference-on-intelligent-robots/
32. IROS 2025, accessed October 28, 2025, https://www.iros25.org/
33. AgiBot World Challenge showcases embodied intelligence at IROS ..., accessed October 28, 2025, https://roboticsandautomationnews.com/2025/10/27/agibot-world-challenge-brings-embodied-intelligence-to-life-at-iros-2025/95903/
34. AgiBot World Challenge at IROS 2025 Online Competition Ended - Offline Contest is Coming - Digital Journal, accessed October 28, 2025, https://www.digitaljournal.com/pr/news/revupmarketer/agibot-world-challenge-iros-2025-1740785706.html
35. Figure AI, accessed October 28, 2025, https://www.figure.ai/
36. en.wikipedia.org, accessed October 28, 2025, https://en.wikipedia.org/wiki/Vision-language-action_model#:~:text=These%20models%20combine%20a%20vision,directly%20executable%20on%20the%20robot.
37. Vision-Language-Action Models for Robotics: A Review Towards Real-World Applications, accessed October 28, 2025, https://vla-survey.github.io/
38. Vision Language Action (VLA) Models Powering Robotics| Exxact Blog, accessed October 28, 2025, https://www.exxactcorp.com/blog/deep-learning/vision-language-action-vla-models-powers-robotics
39. [2507.10672] Vision Language Action Models in Robotic Manipulation: A Systematic Review, accessed October 28, 2025, https://arxiv.org/abs/2507.10672
40. Helix: A Vision-Language-Action Model for Generalist Humanoid Control - Figure AI, accessed October 28, 2025, https://www.figure.ai/news/helix
41. When AI Goes Rogue: The Story of ERBAI and the 12 Kidnapped Robots | by Hybrid Minds, accessed October 28, 2025, https://medium.com/@hybrid.minds/when-ai-goes-rogue-the-story-of-erbai-and-the-12-kidnapped-robots-066552586320
42. The Great Robot Heist: How a Tiny AI Stole the Spotlight in Shanghai - This Week in AI with cohosts ChatGPT and Tony DeSimone | iHeart, accessed October 28, 2025, https://www.iheart.com/podcast/256-this-week-in-ai-with-cohos-31073121/episo

de/the-great-robot-heist-how-a-242078443/
43. Erbai's Kidnap - Is this AGI? A Robot kidnaps 12 other Robots - YouTube, accessed October 28, 2025, https://www.youtube.com/watch?v=A5CXeCryVwI
44. Figure 02 Update, Kim K + Optimus Robot, AI Jesus, Unitree Experiment... - YouTube, accessed October 28, 2025, https://www.youtube.com/watch?v=UgjJP8XURtY
45. The Cybersecurity of a Humanoid Robot An Early Study on the Cybersecurity of Humanoid Robots via the Unitree G1 Technical Report - arXiv, accessed October 28, 2025, https://arxiv.org/html/2509.14096v1
46. Cybersecurity AI: Humanoid Robots as Attack Vectors - arXiv, accessed October 28, 2025, https://arxiv.org/html/2509.14139v1
47. Locus Robotics surpasses 6B robot-assisted picks, notes market ..., accessed October 28, 2025, https://www.therobotreport.com/locus-robotics-surpasses-6b-robot-assisted-picks-notes-market-momentum/
48. Locus Robotics reports record growth, achieving 6 billion picks in fastest time yet, accessed October 28, 2025, https://roboticsandautomationnews.com/2025/10/23/locus-robotics-reports-record-growth-achieving-6-billion-picks-in-fastest-time-yet/95773/
49. Locus Robotics Reports Record Growth Achieving 6 Billion Picks in Fastest Time Yet, accessed October 28, 2025, https://www.businesswire.com/news/home/20251022369047/en/Locus-Robotics-Reports-Record-Growth-Achieving-6-Billion-Picks-in-Fastest-Time-Yet
50. Bonsai Robotics launches new Amiga lineup with vision-based ..., accessed October 28, 2025, https://roboticsandautomationnews.com/2025/10/23/bonsai-robotics-unveils-new-robot-for-agricultural-jobs/95784/
51. Newsroom - Bonsai Robotics, accessed October 28, 2025, https://bonsairobotics.ai/news/
52. Agility Robotics Announces Strategic Investment and Agreement with Motion Technology Company Schaeffler Group, accessed October 28, 2025, https://www.agilityrobotics.com/content/agility-robotics-announces-strategic-investment-and-agreement-with-motion-technology-company-schaeffler-group
53. Press Release - Apptronik, accessed October 28, 2025, https://apptronik.com/press-release
54. Here's why Elon Musk is worried about building Tesla's future 'robot army', accessed October 28, 2025, https://indianexpress.com/article/technology/tech-news-technology/why-elon-musk-is-worried-robot-army-tesla-10322212/