**AI x Gaming**

**Week of January 6th, 2024**

# **Top 3-5 Key News Items**

**Key News Item #1:** Razer shows off AI backseat gaming ([Link](https://www.laptopmag.com/ai/razer-project-ava-ai-gaming-hands-on-ces))

* Razer introduced its Project AVA AI “copilot” coach that uses constant screenshotting to provide real-time improvement feedback.
* In demonstrations it was able to offer very detailed guidance for Black Myth: Wukong boss fights and League of Legends play tips including countering opponent heroes and item buys.
* Much of this kind of information is something that could be found in wikis, guides and videos but having real-time feedback in-context of players current game-play without needing to look away from the game could be huge for improving at complex games.
* This type of information isn’t a form of cheating, but it massively improves upon trying to look up information ahead of time and actually remembering to apply it during play. This is especially true for things like countering opponents or situational choices that would require either encyclopedic game knowledge or trying to look up information while playing.
* It’s not fast enough yet to really beat players who already know these things and is instead really helping to overcome a lot of early learning hurdles and speeding up skill development. Players who have already ingrained this knowledge will still have an advantage provided they keep up, but with meta changes and new content releases it’s possible this could help them as well.
* **Why does this matter to AI x Gaming:** Real-time skill and knowledge assistance could expand competitive gaming to a much bigger audience that doesn’t have the time or motivation to overcome the massive beginner walls, especially in MOBAs. Combined with eventual real-time commentary analysis, this could provide a major boost to esports accessibility for intimidated players.

**Key News Item #2:** Streamlabs, Inworld AI, and Nvidia give streamers AI co-hosts and PAs ([Link](https://venturebeat.com/games/inworld-ai-teams-with-nvidia-and-streamlabs-on-intelligent-streaming-assistant/))

* Inworld AI showed off its collaboration with Nvidia and Streamlabs for an intelligent streaming assistant that can both help with production tasks like highlight clipping and triggering audio/video FX, as well as provide commentary as a co-host.
* Game streaming isn’t going away, but the economics of starting as a smaller streamer vs a famous incumbent are massive just due to the logistics of not having a support team. Having an AI that can help with production aspects and simple commentary will allow more indie streamers to focus on playing and showing personality.
* Usually once a streamer hits a certain level of success it’s much easier to find volunteer support for production and co-hosting, so this is more useful for bootstrapping to raise the lower bar for new streamers. It doesn’t hurt that the AI will be able to help with setting up and troubleshooting streamlabs software too.
* Concurrent viewership on Twitch went up from 2.44M in 2023 to 2.55M in 2024, but the number of streamers had a much smaller increase from 7.36M to 7.39. This highlights some of the struggle for new streamers to join the ranks of the more entrenched streamers despite a constant stream of new niches and games to play and talk about. Streamlabs itself is hoping to leverage this to grow its software usage which is currently around ~167.5k unique channels.
* As this software improves it’s easy to imagine additions over time to catch up with current production styles and trends as well as improved understanding of games which could make for a good subscription service.
* **Why does this matter to AI x Gaming:** Streamers and influencers are a critical part of game marketing now, and a big force in the success of smaller games finding breakout audiences. Anything that can help expand the base and variety of niche streamers will benefit game discovery, which is more important than ever given the current state of the game industry.

**Key News Item #3:** Nvidia levels up game AI with SLMs ([Link](https://www.theverge.com/2025/1/6/24337949/nvidia-ace-ai-npcs-pubg-ally-teammate))

* Nvidia announced in a [blog post](https://www.nvidia.com/en-us/geforce/news/nvidia-ace-autonomous-ai-companions-pubg-naraka-bladepoint/) it is partnering with PUBG: BATTLEGROUNDS, inZOI, and NARAKA: BLADEPOINT MOBILE PC VERSION to develop and show off AI teammates that use Small Language Models (SLMs) for communication, decision making, vision and audio processing to not only play like a player but also work cooperatively with a real one.
* Games have been trying to make AI teammates that play more like real player sidekicks and less like frustrating bots ever since Ion Storm’s infamous [Daikatana](https://en.wikipedia.org/wiki/Daikatana) flop in 2000. Unfortunately these were always simple state machines combined with semi-scripted actions that could be helpful but never really perform like another player would.
* Based on the [demo video using PUBG](https://www.youtube.com/watch?v=wEKUSMqrbzQ) there is some definite potential for this technology to at least provide solo players with a semi-reliable teammate even if it will still lack a lot of human qualities, motivations and skills. The demo at least shows it able to act as an assistant and even a little bit of smack talk at the end, but it’s no doubt hand selected clips and the release of the real thing will likely make for some good memes.
* While game devs would almost always prefer to have real players playing together instead of solo players with bots, games like PUBG already rely on bots to fill out the lobbies for consistent play. The benefit here is for bots to also be teammates that can at least cooperate, but there’s the obvious question of what skill level these bots will be set to as they could easily act as aimbots unless tuned accordingly.
* On the flip side of teammates, Nvidia is also working with South Korean web3 game developer WeMade to create [AI Bosses in MMORPG Mir5](https://www.businesswire.com/news/home/20250106300797/en/Wemade-Next-to-Develop-an-AI-Boss-in-MIR5-in-Collaboration-with-NVIDIA). Rather than working to cooperate with players, Nvidia are instead hoping they will [learn and adapt to players](https://www.youtube.com/watch?v=-8XeiZ4djKw) to adjust difficulty and variety of challenges for more depth of play.
* **Why does this matter to AI x Gaming:** On the surface, better AI for both friendly and enemy NPCs is undoubtedly a good thing, but there are a few caveats like difficulty tuning, personality and whether or not it will require GPU upgrades for players. Expect an initial mix of bugs and player pushback combined with impressive moments before this goes through enough iterations to become some kind of standard.

**Key News Item #4:** Virtuals Protocol partners with Animoca Brands to fund AI game agents ([Link](https://crypto.news/virtuals-protocol-teams-up-with-animoca-brands-to-invest-in-ai-gaming/))

* Virtuals Protocol announced a partnership with web3 juggernaut Animoca Brands to invest in Agentic AIs for gaming. Animoca Brands may not have succeeded in making web3 mainstream, but it certainly managed to bring a lot of investment money into the space in 2022, raising approximately $544M.
* Agentic AI, especially around the blockchain, will be a big topic in 2025 as investors and users alike will be looking for more AI that can actually DO things, not just talk about them. Blockchain games make an interesting use case because of the potential for decentralized game actions without relying strictly on game integration or APIs.
* While not limited to these things, the types of projects being looked at for investment include Sentient AI NPCs for storytelling and player interactions, AI Gamers as agents that compete with players, and AI Avatars as digital twin replications of players.
* Knowing how Animoca Brands has operated previously, it’s likely the funding will be distributed across a large number of projects (its portfolio includes over 530) that have potential, with many that might end up vaporware. Animoca Brands does have a lot of in-house resources for tech, especially blockchain tech, that could be leveraged by those receiving the funding to help execute on the visions, which makes this potentially more aligned for success than investment from VCs that lack knowledge and resources in the space.
* **Why does this matter to AI x Gaming:** Funding partnerships that exist within a niche space like games and blockchain games especially, can be both a boost to development resources as well as a signal that helps lead to others joining in. Blockchain games can be a good place for experimenting with bleeding edge agentic AIs both because of its open decentralized nature, and also because the user base is used to high promise and low quality.

# **Other News Items**

* **AI Chess Glasses** ([Link](https://x.com/eddybuild/status/1878263416080482312)): Built for a hackathon, teen Eddy Xu built AI enhanced glasses that assists with playing perfect chess moves in physical chess without anyone being the wiser. Casinos will have fun dealing with these sorts of devices in card counting!
* **NeuralSVG: An Implicit Representation for Text-to-Vector Generation** ([Link](https://sagipolaczek.github.io/NeuralSVG/)): A paper on a method for generating editable SVG graphics from text prompts. Editability gives these more potential usability post-generation than static image generation.
* **Nvidia unleashes lots of new AI projects during CES** ([Link](https://venturebeat.com/ai/nvidias-nemotron-model-families-will-advance-ai-agents/)): Nvidia continued to try and stay on top of the AI industry by announcing multiple AI projects including [Nemotron model families](https://venturebeat.com/ai/nvidias-nemotron-model-families-will-advance-ai-agents/) for AI agents, a [blueprint for AI agents](https://venturebeat.com/ai/nvidia-launches-blueprint-for-ai-agents-that-can-analyze-video/) that can analyze video, a $3k personal AI supercomputer called [Project Digits](https://venturebeat.com/ai/nvidia-unveils-project-digits-personal-ai-supercomputer-for-researchers-and-students/), and a [new suite of World Models](https://research.nvidia.com/publication/2025-01_cosmos-world-foundation-model-platform-physical-ai) based on its Cosmos tokenization scheme for robotics and industrial applications.

# **Content Worth Consuming**

* **Google is building its own ‘world modeling’ AI team for games and robot training** ([Link](https://www.theverge.com/2025/1/7/24338053/google-deepmind-world-modeling-ai-team-gaming-robot-training)):
  + Going beyond just large language models, world models are heating up as users look towards bridging LLMs that exist in nothingness towards simulated and eventually real world actions. Models like the one Google is building provide for detailed simulations that can help train real world robots and even work towards fleshing out AGI environments so they don’t exist as simply a prompt that knows nothing of the “world”.
  + Between training in video games, simulations of the real world and synthetic data production, there is potential for AI to start training itself and multiple agents through continuous training simulations where it can explore behavior and have actual perceptions rather than being fed training data into a training algorithm.
* **What is an AI PC exactly? And should you buy one in 2025?** ([Link](https://www.zdnet.com/article/what-is-an-ai-pc-exactly-and-should-you-buy-one-in-2025/)):
  + PC hardware manufacturers looking for a marketing edge have been slapping AI all over, especially at CES. Much like VR-Ready PCs, these are mostly just hardware spec tweaks and a little bit of half baked software that doesn’t always have a concrete use case yet. The primary part to notice about the hardware is the introduction of NPUs (Neural Processing Units) which can handle some AI tasks more power efficiently than GPUs, echoing the initial generation of GPUs and even math co-processors in the early x86 era.
  + Many potential purchases likely won’t benefit much from these as the real use is running AI LLMs and image generators locally versus relying on hosted solutions like ChatGPT, Midjourney and Claude. It’s entirely plausible however that much like games slowly but surely started requiring GPUs to play, we might see games that utilize AI start to require NPUs to help drive NPCs and real-time content generation while leaving the GPU focused on graphics.
* **Reflections By Sam Altman** ([Link](https://blog.samaltman.com/reflections)):
  + OpenAI has a history now of flip flopping on cautionary versus optimistic promises of AI tech, with the pendulum now swinging heavily towards very optimistic. In this case the company went from stating that it wasn’t focused on superintelligence and AGI being far off, to suddenly stating confidence in near-term AGI and contemplation of superintelligence after the announcement of its o3 model.
  + There is some conflict of interest in the marketing of terms here as AGI development also relates to its contractual obligations to Microsoft where AGI technology wouldn’t be within its control. Despite AGI being an ever shifting definition, the two companies agreed to define it as an agent that can generate profits exceeding $100B, giving a clear target in terms of goals but not necessarily details. This also aligns with OpenAIs shift to focus more on profit and targeting investors who will undoubtedly be motivated by that definition. It’s at least clear now what Altman’s vision for 2025 looks like.
* **Integrating AI Agents into Companies** ([Link](https://www.austinvernon.site/blog/aimanagement.html)):
  + In most companies AI usage is treated more as a secret tantamount to playing video games on the job. As more companies start taking usage of it as a tool more seriously it becomes obvious that it starts impacting how companies operate if they want to fully leverage the benefits.   
    This piece provides a few useful changes to consider around information management and content production that can help shift the incorporation of AI from confusion to actionable.
* **Smart AIs are now everywhere** ([Link](https://www.oneusefulthing.org/p/what-just-happened)):
  + For those buried in AI tech it's easy to forget how fast it's moving and for those on the outside it's sometimes hard to know or appreciate how many things have changed under the surface. [This article](https://www.oneusefulthing.org/p/what-just-happened) and [another](https://www.thealgorithmicbridge.com/p/you-must-see-how-far-ai-video-has) similar one both provide some good concrete milestone examples to put into perspective both how much has changed and give us an idea of how much will be different by the end of 2025.
  + The important aspects are looking at how AI went from understanding speech and acting as a smart auto-complete to being able to process information sometimes better than humans, start to perceive us through voice and video, and quickly evolve from surreal images to generating realistic videos. Some great examples of all of these are provided and it’s a good reminder to both appreciate and dig into what’s already available rather than getting overwhelmed or disappointed that full superintelligence isn’t already here.
* **Agents** ([Link](https://huyenchip.com//2025/01/07/agents.html)):
  + With 2025 likely being the year of AI Agents, it’s helpful to really break down what that means and how to think about them. Despite what will likely be a lot of advancements, it’s actually far more complex than what it seems to have an AI autonomously “do things”. Anyone who has ever delegated out something to a brand new intern can probably appreciate the hidden complexity of what needs to actually be done and the unfortunate supervision that it eventually necessitates to train them for the task. The article here helps break down some of the important aspects of planning, using tools and actual evaluation to make the idea of autonomous agents a bit more concrete.
* **Why AI language models choke on too much text** ([Link](https://arstechnica.com/ai/2024/12/why-ai-language-models-choke-on-too-much-text/)):
  + One of the big limitations that became apparent early and started acting as a benchmark of sorts is context window size. The easiest way to appreciate this is to simply think of the context window as how much you can hold in working memory or basically pay attention to conceptually without missing details. As we scale up the amount of information that LLMs can work with there’s some scaling problems that start to crop up in how much attention can actually be given to details in a context window, which really makes a difference when it’s not just about cherry picking keywords, but rather making numerous connections between pieces that aren’t readily apparent. This article makes it clear that some progress has been made, but there is still some problem solving we will have to do to get truly superintelligent omniscient AI, even if that just means understanding an entire code base or document stack at once.