Slide 1 – Title Slide

Good morning/afternoon everyone. Today, I'll be presenting on the topic *AI Agents: Devin AI and Auto-GPT* and exploring what their rise means for the future of autonomous systems. This presentation is based on research that analyzes how these agents have evolved, their capabilities, their challenges, and their future potential.

Slide 2 – Introduction

Artificial Intelligence has shifted from being a supportive copilot to becoming more like an autopilot—systems that can think, plan, and act on their own. This change is huge, because it shows that AI agents are no longer just tools but independent problem-solvers. In this presentation, I'll walk you through how AI agents developed, what makes them powerful, and why case studies like Auto-GPT and Devin AI matter for industries today.

Slide 3 – Definition of AI Agents

Let's start with what AI agents actually are. In simple terms, they're intelligent systems that can make decisions and carry out tasks without constant human involvement. They use algorithms, machine learning, and large datasets to understand problems and take actions. Unlike traditional programs that need step-by-step commands, agents can adapt and respond to changing environments, which makes them very powerful in real-world applications.

Slide 4 – Transition from Copilots to Autonomous Systems

Now, think about the shift from copilots to autonomous systems. Earlier AI tools acted like copilots—they supported us but relied heavily on our guidance. Today's agents, however, are more independent. Thanks to advances in natural language processing and decision-making frameworks, they can break down goals, create plans, and execute them. This marks a real paradigm shift in how we interact with technology.

Slide 5 – Importance in Modern Technology

So why is this important? Well, AI agents are transforming industries everywhere. They're speeding up decision-making, analyzing massive amounts of data in real time, and automating processes that once required human teams. Whether it's healthcare, finance, or software development, companies that integrate AI agents gain a serious competitive edge. And as these systems continue to evolve, their role in modern technology will only grow.

Slide 6 – Literature Review: Agent-Oriented Paradigm (BDI Model)

To understand the roots of AI agents, let's look at the Belief–Desire–Intention model, or BDI. This framework explains how an agent reasons: it starts with its beliefs—what it knows about the world, then identifies desires—what it wants to achieve, and finally intentions—the plans it commits to. This model laid the groundwork for designing agents that are more than just reactive; they can be proactive and goal-driven, similar to human reasoning.

Slide 7 – Rise of LLM-Driven Agents

The big leap, however, came with Large Language Models, or LLMs. These models allow agents to process natural language, generate responses, and even use external tools. Instead of just executing code, LLM-driven agents can reason, adapt, and interact in human-like ways. This shift has opened up new opportunities—agents that not only understand us but also collaborate with us in solving complex problems.

Slide 8 – Case Study: Auto-GPT

Let's talk about Auto-GPT. Released in 2023, it's one of the first open-source attempts to create a fully autonomous AI agent. Unlike chatbots that wait for every command, Auto-GPT can take a user's goal, break it into smaller steps, and work toward it using tools like web browsing and memory storage. It has been used for software development, market research, and even creative projects. But it isn't perfect—it often gets stuck in loops, hallucinates information, and can be expensive to run. Still, it's a milestone in autonomous AI.

Slide 9 – Case Study: Devin AI

Now on the other hand, we have Devin AI—developed by Cognition AI in 2023. Devin is designed specifically as an AI software engineer. It can plan, code, debug, and even deploy applications, working alongside human developers through platforms like GitHub and Slack. Big companies, including Goldman Sachs, have experimented with using Devin in hybrid workforces. But, just like Auto-GPT, it has limitations—sometimes failing real-world tests despite impressive demos. What's important is that Devin shows us how close we're getting to AI agents that can participate directly in professional workflows.

Slide 10 – Comparative Analysis (Auto-GPT vs Devin AI)

When we compare the two, Auto-GPT represents a general-purpose agent—flexible, open-source, but still experimental. Devin, meanwhile, is focused on industry, targeting software engineering tasks. Auto-GPT was the first proof of concept, while Devin is the first industrial-scale attempt at an AI software engineer. Both highlight strengths and weaknesses, and together, they show us the broader picture of where AI agents are headed—powerful, promising, but still evolving.

Slide 11 – Challenges

Of course, there are big challenges. Technically, agents can be unpredictable and inefficient. Benchmarking is another issue—most current evaluations measure accuracy but ignore cost, reliability, or long-term stability. Governance is also critical: who takes responsibility when an agent fails or causes harm? And finally, there are ethical concerns like job displacement, privacy, and misuse. These challenges remind us that while the technology is advancing, we need frameworks to ensure it's safe and beneficial.

Slide 12 – Conclusion

To wrap up, AI agents mark a turning point in artificial intelligence. They are no longer just tools—they're becoming collaborators that can plan, decide, and act on their own. Auto-GPT and Devin AI show us both the possibilities and the current limitations. The future of AI agents will depend not only on innovation but also on how we evaluate and govern them. If we balance

progress with responsibility, these systems could truly become reliable partners in both our personal and professional lives. Thank you—and I'd be happy to take any questions.