

Copilot Chaos

How to cut through it and perfect your GenAl Strategy

Agenda

- 1. What is a Copilot?
- 2. Foundations of copilots
- 3. Copilot Architectures
- 4. Copilot choices
- 5. How to find your core copilots
- 6. Final takeaways

What is a Copilot?

A Copilot is a language based interface that allows user to interact with given data and / or workflows

Copilots are also known as Assistants (eg Atlassian), GPTs (eg ChatGPT, Einstein GPT), Al Companions (eg ZoomAl), or Copilots (MSFT, Moveworks)

Copilot enable users to interact with data or workflows using natural language instructions.

Why they matter \rightarrow They extend or break application silos

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Copilots are the Taylor Swift of Tech



CEOs are caught between the 'fear of missing out' on AI—and the 'fear of getting in'

BY ALAN MURRAY AND NICHOLAS GORDON
October 3, 2023 at 9:51 PM PDT

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Interest in copilots over time - since 2022

GenAl offerings are growing rapidly

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So what Qs are you confronting?

- 1. What are the types of copilot?
- 2. Can copilots take action, or are they for search only?
- 3. Which copilot should I choose?
- 4. Should I choose one or many?
- 5. Should I build my own or buy?
- 6. How can I assess risks of copilots?
- 7. Are copilots worth the \$? How can I calculate ROI?
- 8. What about cloud services?
- 9. What about models?

Layers of Generative AI

Infrastructure

Mature. Supply constrained Substantial revenue





Models

Capable + evolving. Open Source catching



Services Wide model availability. Capacity constrained Azure OpenAl 💤 slack GPT Amazon Bedrock **GitHub** Copilot CW CoreWeave Google Cloud Vertex Α

Applications

Mostly announcements. Slowly rolling out

Models - key things to know

Foundation Models

- 1. Largest models in the world by training data and model parameters
- 2. Generalized to perform any language task from coding, reasoning, to summarization
- 3. GPT-4 is the leader according to many benchmarks, but others catching up

Task specific models

- 1. Smaller models that are cheaper, faster, and more controllable
- 2. Trained to perform specific language tasks like entity recognition, coding, etc
- 3. Task specific models perform subset of tasks performed by foundation models albeit at higher quality, speed, or lower cost

Sophisticated copilots combine frontier and task specific models



HELM Leaderboard

The HELM leaderboard shows how the various models

Accuracy	Efficiency	General	al information				
Model 🗘			Mean win rate	$\hat{\mathbf{v}}$			
GPT-4 (06	613)		0.962				
GPT-4 Tu	rbo (1106 pr	eview)	0.834				
Palmyra X	(V3 (72B)		0.821				
Palmyra X	(V2 (33B)		0.783				
PaLM-2 (Unicorn)		0.776				
Yi (34B)			0.772				
Mixtral (8	x7B 32K seq	len)	0.728				
Anthropic	Claude v1.3		0.724				
PaLM-2 (I	Bison)		0.686				
Anthropic	Claude 2.0		0.679				
Llama 2 (7	70B)		0.659				
GPT-3.5 (text-davinci-	-003)	0.621				

Models in Moveworks Copilot

Foundation Model - GPT-4 / GPT-4 Turbo

- 1. Used for reasoning and action planning based on user utterance
- 2. Execution of "plugins" to fulfill user query
- 3. Summarize results for the user

Task specific discriminative models

- 1. FT-LangDetection low latency detection of user language
- 2. FT-Roberta handoff classification, entity recognition

Task specific generative models

- 1. FT-Flan-T5 toxicity judgement for both user input and bot output
- 2. FT-Flan-T5 file search relevance judgement
- 3. FT-M2M100 translation of resources (KBs, forms, etc)



Copilot Architectures





Talk to an LLM

Use cases

- 1. Generation use cases eg ChatGPT, DallE
- 2. Draft a new email, draw a sketch, create a job description, interpret code, write a performance review, etc

Benefits

- 1. Rapid creation
- 2. Low cost to build

Limitations

- 1. Hallucinations when used for factual queries
- 2. Not connected to any data source
- 3. Not connected to any workflows

🎒 You

my babysitter is asking for a lot of \$ - give me some negotiation tips $\ensuremath{\mathcal{Q}}$

ChatGPT

Negotiating with your babysitter over pay requires a delicate balance between acknowledging the value of their work and ensuring the rate is fair and sustainable for your budget. Here are some tips that might help you navigate this negotiation:

1. Do Your Homework

 Research average rates in your area for similar babysitting services. Consider factors like the number of children, their ages, specific needs, and the responsibilities expected of the babysitter. Websites, local parent groups on social media, or community boards can be good resources.

2. Assess Value

 Evaluate the babysitter's experience, qualifications (like CPR certification), and the quality of care they provide. Higher qualifications and exceptional care can command higher pay.

3. Open Communication

 Start with an open and honest conversation. Express appreciation for their work and explain your budget constraints. Ask about their expected rate and what drives it.

4. Be Clear About Expectations

 Clearly outline the job duties, hours, and any additional responsibilities you expect the babysitter to handle. Misunderstandings about job scope can lead to discrepancies in pay expectations.

5. Consider Non-Monetary Benefits

 If your budget is tight, think about non-monetary perks you could offer. Flexible hours, additional time off, or meals during babysitting hours can be valuable to some babysitters.

Retrieval Augmented Generation



© Move

Retrieval Augmented Generation

Use cases

- Email or meetings summarization bots (Teams Copilot, Outlook Copilot)
 Connecting LLMs to emails to transcription, you can summarize text
- 2. Q & A copilots By connecting LLMs to knowledge sources, users can get accurate answers
- 3. Search experiences (eg Perplexity.AI) RAG architecture can generate summaries in addition to specific links from search engines

Benefits

- 1. Up to date and accurate responses
- 2. Low risk of hallucinations
- 3. Low cost to build

Limitations

- 1. Cannot complete tasks
- 2. No reasoning capability
- 3. Fails for multiquery questions

Microsoft partners with Mistral

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Welcoming Mistral, Phi, Jais, microsoft.com · 1 Alliances · Mistral Solutions | Partners and Microsoft and Meta, we are delighted to offer. Microsoft and Meta, we are delighted to offer. View 3 more

\equiv Answer

Microsoft has partnered with Mistral to offer Mistral's Large Language Model, Mistral, with 7.3 billion parameters in the Azure AI Model Catalog. This model is trained on data that can generate coherent text and perform various natural language processing tasks, outperforming many existing AI models. Mistral's key features include grouped query attention and sliding window attention for faster inference and longer response sequences Mistral Solutions, a company partnered with Microsoft, collaborates with various technology companies such as Qualcomm, Texas Instruments, NXP, Wind River, and others ³. Additionally, Capgemini partners with Mistral AI to drive the adoption of new generative AI models ³.

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🗟 Related

what is mistral's role in the partnership with capgemini and azure ai	+
vhat other companies has mistral partnered with	+
what is the azure ai model catalog and how does it work	+

Perplexity.ai

Agentic Al



Reasoning + Action planning via LLMs



Benefits of Agentic Al

Use cases

- 1. Action + search oriented chatbots build systems that allow users to complete tasks across systems
- 2. Assistants Help users find information and take actions based on results

Benefits

- 1. Combine actions + search in a single system
- 2. Supports talk to an LLM
- 3. Supports **search** / RAG
- 4. Support multiquery prompts
- 5. Scalable across multiple types of tasks

Limitations

- 1. Costly to build and maintain
- 2. Requires deep LLM expertise



Varun Singh 9:24 AM

can you find who my direct reports are and give all of them access to Asana for project management?



m8 APP 9:24 AM

Your direct reports are Dave Uppal, Ivy Wang, Gwen Thorn, and Ahmed Al-Bahar. I will now proceed to grant them access to Asana for project management.

👍 👎 🚺 Get Help

I apologize for the inconvenience. To proceed with granting access to Asana, I need a business justification. Could you please provide a reason for granting them access to Asana?

👍 👎 🛐 Get Help



Varun Singh 9:25 AM they all needs to manage projects

m8 APP 9:25 AM

I'm about to grant access to Asana for Dave Uppal, Ivy Wang, Gwen Thorn, and Ahmed Al-Bahar. Can you please confirm this?



Agent based architectures scale across multiple use cases

Varun Singh 6:08 PM Global protect is not

- Global protect is not working
- m8 APP 6:08 PM
- I'm sorry to hear that GlobalProtect is not working. Here are some troubleshooting steps you can try:

1. Make sure that you are connected to a non-company network BEFORE connecting to VPN **•**.

2. If this is your first time connecting to VPN on this device, make sure you have entered the correct login credentials $\mathbf{0}$.

3. Make sure your internet connection is working **1**.

 If you're experiencing disconnections or unusual delays, check if your internet provider is experiencing any outages or slowdowns ②.
 Try changing the VPN server location to a less crowded server or one closer to you ③.

6. Restart your computer and try connecting to VPN again *2*.7. Close other applications *2*.

Uninstall the VPN client from your device and then reinstall it *Q*.
 If you are not able to connect to VPN, try disconnecting the VPN and provide the URL - prisma.moveworks.com *Q*.

10. Try by changing the wifi network (ex. try to connect from your mobile hotspot) 0.

11. Try by re-installing from self service (press command+Spacebar and type self service) 0.

12. If you're using macOS, you can manually stop and start GlobalProtect using the launchctl command ③.

Search (RAG use case)

Varun Singh 9:32 AM

can you add me to the PMM distribution list?

m8 APP 9:32 AM

I found the 'product-marketing' distribution list that you might be referring to. To confirm, would you like me to add Varun Singh (varun@moveworks.ai) to this distribution list?

Yes Edit request Cancel

👍 👎 🛐 Get Help

Varun Singh 9:33 AM is there any other relevant list?

m8 APP 9:33 AM

Sure, there are a few more distribution lists related to product marketing. Here are some options:

1. 'marketing' with the email 'marketing@moveworks.ai'

2. 'all-product' with the email 'all-product@moveworks.ai'

3. 'Product Team' with the email 'product-all@moveworks.ai'

4. 'product-india' with the email 'product-india@moveworks.ai'

Please let me know which one you would like to be added to.

👍 👎 🛐 Get Help

Warun Singh 9:34 AM

yeah add me to produc-marketing. you got that right

Task completion combined with RAG

Varun Singh 9:36 AM

Iook up Nvidia news and draft an email to my direct reports summarizing recent highlights. use this email to highlight importance of GenAI and agent based systems

m8 APP 9:36 AM

Working on: "look up recent Nvidia news and draft an email to my direct reports summarizing the highlights. In the email, emphasize the importance of GenAI and agentbased systems,"

Searching Browse the Internet for "Nvidia recent news" Searching people registry with role: direct_report; manager_email:

run@moveworks.ai;

Reading response and summarizing results...

Subject: Important Updates on Nvidia and the Impact on GenAI

Dear Team,

I wanted to share some recent highlights about Nvidia, a key player in our industry, and discuss how these developments underscore the importance of our work on GenAI and agent-based systems.

1. Nvidia's stock has seen substantial growth, with a 34% increase so far in 2024, leading to a market capitalization exceeding \$248.23 billion in January 2024.

2. Nvidia remains dominant in the field of AI hardware, particularly with GPUs and other specialized processors essential for AI applications like OpenAI's ChatGPT.

 Nvidia reported revenues of \$22.1 billion for the fourth quarter ending January 28, 2024, representing a 22% increase from the previous quarter and a staggering 265% jump from the same period in 2023.

4. Nvidia introduced the H2O, a China-focused AI chip priced similarly to Huawei products, developed amid US restrictions on advanced chip exports to China.

5. Other major technology companies are investing heavily in AI chips due to the growing importance of these components, highlighting Nvidia's role in driving innovation within the space.

6. Nvidia collaborated with Equinix to provide AI supercomputer access to businesses, and joined forces with Jeff Bezos and OpenAI to support a humanoid robot startup.

7. Despite US sanctions, Chinese entities, including military organizations and academic institutions, have continued acquiring Nvidia chips.

Generation combined with RAG via Creator Studio Gen Al Plugin

Copilot choices - finding your sweet spot



Finding your core copilots

1. Consider your **productivity platform**

- a. What do you use for communications?
- b. What do you use for email?
- c. Where is most of your data stored?

2. Consider your **business focus**

- a. Do you have a large sales force?
- b. Do you have a large customer engagement operation?
- c. Do you have a large engineering team?

3. Consider common needs across all employees

- a. Employees struggle to find information
- b. Tasks and requests are delayed due to application sprawl
- 4. Consider proprietary / differentiated advantage
 - a. Do you have access to unique IP in terms of data or specialty

Core Copilot Pillars

Prod Platf	uctivity orm	Business focus	Employee needs / All systems	Proprietary advantage	
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Productivity Platform copilot

Use Cases

- Addresses most frequent use cases for employees 1
- 2 Writing emails, summarizing meetings, managing tasks, summarizing documents
- 3. Data resides in one system



Benefits

- Save employees several minutes every day
- 2. Rapid time to value
- 3. Very low total cost of ownership
- Works out of the box 4

Bring your best ideas to life with Gemini for Google Workspace

Gemini is the AI-powered assistant from Google, built right into Gmail, Docs, Sheets, and more, with enterprise-grade security and privacy.

Get started Contact sales

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To get Gemini for Google Workspace, you need an existing Workspace plan.



Slack AI

Summary

introduced

New planning processes

The team agreed to try a new

process starting next week.

Project costs are going up

from last week, [2]

Demo to security team

@CostBot reported the weekly

cost as \$101,333.75, up 0.03%

@Lisa shared the product priorities. [1]

~

5

rg x

Business focus copilot

Use Cases

- 1. Focuses on primary business focus
- 2. Improve productivity of sellers, engineers, supply chain operations

Benefits

- Improves productivity of key constituents in unique ways
- 2. Rapid access to CRM data for sellers
- 3. Engineers get more productive through better code
- 4. Customer engagement teams scale better through Gen Al copilot



Github Copilot

Employee copilot

Use Cases

- Focuses on common needs of all employees
- 2 Improve employee productivity by eliminating friction between employees and business systems
- 3. Break system silos and enable employees to finish tasks or find information

Benefits

- Significant increase in employee productivity
- 2. Reduced employee service costs
- З. Unlock value from all business platforms

varun 10:18 AM varun 10:21 AM what laptop options do i have? i am planning to take 2 weeks off. can you tell me how much time off i have? Moveworks Copilot APP 10:18 AM Moveworks Copilot APP 10:21 AM Varun, you have three laptop options available: Varun, you currently have 128 hours of time off available according to your MW Annual Leave Plan (). As you're planning to take 2 weeks off, which typically equates 1. Standard Laptop 0 to 80 hours (assuming a 40-hour work week), you should have sufficient time off for 2. Sales Laptop 😢 your planned vacation. 3. Development Laptop (PC) 6 Please let me know which one you would prefer so I can assi 👍 🦊 🗊 Get Help 0 varun 10:22 AM Standard Laptop can you help me book it? Lenovo - Carbon x1 Moveworks Copilot APP 10:22 AM Complete this request Sure, I can assist you with that. To proceed, I'll need the exact dates for the start and end of your vacation. Could you please provide these details? Sales Laptop Acer Aspire NX 👍 👎 🛐 Get Help Complete this request varun 10:23 AM 0 i'll start on 3/2/24 and end on 3/10/24 Development Laptop (PC) Dell XPS 13 Moveworks Copilot APP 10:23 AM Varun, I'm about to submit your vacation request for the period from March 2. Complete this request 2024. to March 10, 2024. Can you please confirm these dates are correct? 👍 👎 🛐 Get Help Yes Cancel varun 10:01 AM

Moveworks Copilot

*

O

can you give me an overview of our security posture?

Moveworks Copilot APP 10:01 AM

Our security posture is dynamic and adjusts to complex security protocols within the organization. For example, by taking into account the role, department, and security permissions of a user asking a question, the system delivers the most appropriate and relevant response **1**.

All employees are required to follow all Company information security policies and procedures. This includes the confidentiality of electronic mail which is subject to monitoring, and the release of specific information is subject to applicable laws and Company rules, policies, and procedures on confidentiality 2.

We also have cyber security and privacy liability coverage of at least \$1 million for actual or

Proprietary focus copilot

Use Cases

- 1. Focuses on leveraging unique data to drive core business value
- 2. Trading data for hedge funds, drug design data for pharma cos, case data for consultants
- 3. Often custom built through in-house or external help

Benefits

- 1. Accelerate business growth through unique IP differentiation
- 2. Improved security posture for sensitive data



Wavfair Decorify

Honeywell to deliver \$100 million in value with generative AI

Honeywell's Gen Al Pillars - source VentureBeat (Link)



Business outcomes of copilots



Enhance Productivity Enable employees to do more

Drive Operational Excellence Automate back office services



Accelerate Business Transformation Stay competitive and grow

Cutting through Copilot Chaos - takeaways

- 1. Models are evolving fast and open source is catching up
- 2. Copilots come with three levels of sophistication
 - a. Talk to an LLM
 - b. Retrieval augmented generation
 - c. Agent based systems for reasoning and planning
- 3. Identify your copilot pillars
 - a. Productivity platform
 - b. Business Focus
 - c. Employee needs
 - d. Proprietary advantage
- 4. Evaluate ROI based on three factors
 - a. Cost savings through automation
 - b. Improved employee productivity
 - c. Business transformation and growth