* **BIG AI COMPANY**
  + Apple?

***Apple***

* One of the world’s largest technology companies
  + Selling consumer electronics
    - iPhones
    - Apple Watches
    - Computer softwares
    - Online Services
* Uses Artificial intelligence and machine learning in products like:
  + The iPhone
    - Enables FaceID features
  + Airpods
    - Smart assistant siri
  + Apple Watch
    - Smart assistant siri
  + Homepod smart speakers
    - Smart assistant siri
* Growing its service offering and is using AI to:
  + Recommend songs on Apple Music
  + Help find your photos in iCloud
  + Navigate to your next meeting using Maps
* <https://www.forbes.com/sites/bernardmarr/2019/12/09/the-10-best-examples-of-how-companies-use-artificial-intelligence-in-practice/?sh=67689d4e7978>

<https://www.apple.com/in/siri/#:~:text=Siri%20%2D%20Apple%20(IN)>

* Siri is a way to get everyday tasks done with just your voice
* Protected by the strongest privacy of any intelligent assistant
* You can use Siri. . .
  + On the Go
    - You can use siri even when your hands are full
      * “Hey siri [enter request here]”
        + ‘Text Father’
        + ‘Remind me to water the plants’
        + ‘Where did I park my car?’
  + In the car
    - Drive safer with siri
      * Some cars have a button on the wheel with CarPlay
      * Or just use your voice with ‘Hey Siri’
      * All while your eyes are on the road
  + Working Out
    - Start a workout
      * “hey siri, start a 30-minute outdoor run”
    - Play your favorite playlist
      * “Hey Siri, play something upbeat”
    - Hear timely texts out loud without breaking your stride
* In The Kitchen
  + Multitask without mess
    - Set timers
    - Convert measurements
    - Call everyone to the table over intercom on HomePod
* Winding Down
  + Kick back and relax
    - Set your alarm
    - Turn off lights
    - Drift off with calming music with your eyes closed
* The most private digitall assistant
  + Siri learns what you need, not who you are. What you ask siri isn’t associated with your Apple ID. The power of the Apple Neural Engine ensures that the audio of your requests never leaves your iPhone, iPad, or Apple Watch unless you choose to share it.
  + On-device intelligence makes your experience with Siri personal—learning your preferences and what you might want—while maintaining your privacy.
  + What you share with siri is never shared with advertisers

<https://www.laptopmag.com/phones/iphone/siri-ai-rumored-features#:~:text=This%20hands%2Dfree%20experience%20is,with%20apps%20through%20voice%20commands>.

* Siri, Apple’s iconic virtual voice assistant (launched in February 2010)
* Would’ve made it’s way to Android and Blackberry if not for Steve Jobbs
  + Personally pursued it’s $200+ million acquisition
* Introrduced as a core iOS feature alongside the release of the iPhone 4S in 2011
* Much speculation surrounds Apple’s plans to bring AI to iPhone, with Siri being a prime and obvious candidate hor an overhaul in the age of chatbots like Copilot, ChatGPT, and Google Gemini
* Reports from Bloomberg’s Mark Gurman indicate that Siri’s AI makeover will arrive at some point in 2025
  + With changes made to Apple’s virtual assistant being large enough that they won’t be ready in time to launch alongside iOS 18
  + The delay provides Apple with mmore time to fully explorre its options after having recently penned a deal with ChatGPT creators OpenAI over licensing its LLM technology.
  + Gives Apple an opportunity to seek out further partners to help power its AI Ambitions, with a potential deal with Google also rumored
* The perks of AI on iPhone will change siri
  + LLM overhaul to bring it mmore in line with AI chatbots
    - A more natural, conversationall virtual assistant that can understand the context behind queries and rreact appropriately
    - Far more than simply respond to voice commands
      * Potentially being able to comment on what can be seen through the iPhone’s camera or images on screen
    - the upgrade to a true AI companion could have an incredible impact on the feature’s effectiveness and attractiveness too users
    - take on more complex tasks that the virtual assistant simply isn’t capable of right now
  + the ability to automatically edit photos and chieve the look and style the user wants
    - the iPhone already uses AI and machine learning for taking photos with computational photography
      * same tech that makes you look so good in Portrait MMode shots
        + making use of filers
        + simulating lenses
        + applying post-processing effects
    - no harm in adding a little extra flavor to your snaps
      * potentially making use of generative AI to transform your photos into different styles, or by enhancing low-light images and reducing any blur
  + Greater accessibility
    - Apple announced that it’s bringing accessibility features to both iPhone and iPad
      * Eye tracking control
    - Hands-free experience is something siri is rumored to excel at, with the assistant’s new capabilities allowing it to act as an AI agent of sorts, to precisely interact with apps through voice commands

<https://www.cnet.com/tech/mobile/apple-already-has-ai-powered-features-on-your-iphone-heres-how-to-use-them/>

* In February Cook confirmed that the company is indeed investing heavily in generative AI
  + Suggested that Apple would have an edge in the competition, even when lagging widely in the AI race
  + “We believe in the transformative power and promise of AI, and we believe we have advantages that will differentiate us in this new era, including Apple’s unique combination of seamless hardware, software and services integration,” Cook said during Apple’s May earnings call
* Apple may not have a chatbot, but it uses AI in a feature that arrived with iOS 17
  + Personal voice is an accessibility setting that uses on-device machine learning to allow people at risk of speech loss to replicate their voice so they can more easily communicate with loved ones.
    - To learn voice, iPhone asks you to read out loud 150 phrases
    - AI analyzes your voice and generates a synthetic version of it
    - Use iPhone’s type-to-speak tools to turn text into speech in FaceTime and third-party compatible apps
* Easily copy text from iPhone images
  + Live text is a front-facing AI feature already available on iPhones running 2021’s iOS15 software or later
  + Computer vision tool that recognizes handwritten and type-written text in photos, much like google Lens.
  + Text from images can be copied and pasted with just a few taps
* Predictive text
  + Ios 17’s new transformer language model, uses machine learning for word prediction
  + Trained by troves of data, allowing it to learn context and patterns to provide improved results
* Portrait mode
  + Uses AI to identify subjects and create a bokeh effect
  + Cinematic mode
    - Uses AI to simulate the desired aperture and dynamically adjusts focus to keep your moving subject sharp
* iOS 17 gave the photo app the ability to identify pets in a photo, which allows for better photo organization

<https://guides.loc.gov/this-month-in-business-history/april/apple-computer-founded>

* April 1, 1976
* Wanted to make computers small enough for people to have them in their homes or offices
* Wanted a computer that was user-friendly.
* Apple I in jobs’ garage sold without monitor
* Apple II revolutionized the computer industry

<https://www.investopedia.com/articles/investing/081716/understanding-apples-capital-structure-aapl.asp#:~:text=Apples%20makes%20most%20of%20its,of%20Asia%20Pacific%20and%20Japan>.

* Apple makes most of its monnet
  + Over 40% of its revenue in the Americas
  + 24% of their income fromm Europe
  + 21% from China
  + 14% from the rest of Asia Pacific and Japan
* Product that makes apple the most money
  + The iPhone by a large margin
  + Services division is second most profitable

<https://www.cnn.com/2024/01/25/tech/five-big-challenges-apple-is-facing-in-2024/index.html>

* Problems in China
  + The company has scrambled to attract iPhone customers in the country following the release of Huawei’s Mate 60 Pro
    - Apple offered temporary discounts on its iPhones and other products in China, dropping prices about $70 for iPhones
  + China drove about 20% of the company’s sales last year
  + iPhone sales in China dropped 30% in the first week of the year
* Ongoing patent battle
  + Ban on some of the more premium versions of the apple watch
  + ITC order prevented Apple from importing the Apple Watch series 9, Apple watch Ultra 2 and other more recent models to the US because it was in violation of medical company Masimo’s pulse oximeter patent
* A step behind on Generative AI
  + Microsoft, Meta, Google and Samsung, continue to roll out generative AI features to their services, computers and smartphones.
  + Apple has been largely quiet on the topic
  + People will expect Apple to deliver similar or more advanced features in AI.

<https://machinelearning.apple.com/research/on-device-neural-speech>

* Recent advances in text-to-speech synthesis, such as Tacotron and WaveRNN, have made it possible to construct a fully neural network based TTS system, by coupling the two components together.
* The system achieves quality equal or close to natural speech.
* The high computationall cost of the system and issues with robustness have liited their usage in real-world speech synthesis applications and products.

<https://www.respeecher.com/blog/how-voice-synthesis-can-improve-user-engagement-in-apps>

* Voice synthesis in apps can cater to diverse user needs, offering personalized interactions.
* Enhance user engagement by making interactions more intuitive, immersive, and inclusive
* Voice synthesis encompasses a range of technologies that generate human-like speech fromm text or other speech inputs
* Text-to-speech tech
  + Converts written text into spoken words
  + Relies on natural language processing and speech synthesis algorithms to produce natural and clear speech.
  + Can be customized with different AI voices, languages, and intonations to suit various applications and user preferences
* Speech-to-speech cloning
  + An advanced form of voice synthesis that replicates a person’s voice by analyzing their speech patterns and creating a digital model
  + Companies like respeecher specialize in this area, allowing developers to create highly personalized and realistic voice AI user interactions
    - Can replicate tone, pitch, and style nuances, enabling applications to offer highly tailored and engaging user experiences
* Voice integration involves several technical considerations to ensure seamless functionality and an optimal user experience
  + Developers can integrate AI voice text-to-speech and voice cloning software through APIs of services that offer a range of voices and languages, enabling easy implementation and customization
  + Real-time voice synthesis requires efficient processing to minimize latency
* Amazon Alexa and Google Assistant
  + These popular virtual assistants leverage voice synthesis to provide personalized interactions
    - Users choose from different voice options and languages, allowing the assistannts to cater to various preferennces and culturall contexts
* Integrating voice synthesis in apps not only improves accessibility but also helps in meeting legal and ethical standards for inclusivity.
* By implementing a voice AI synthesis, app developers cann comply with these standards, ensuring that their apps are accessible and usable by a broader audience