# Today's Topic
# Artificial Intelligence

# RON PLAIN
## INSTRUCTOR

# APPLE UPDATES DROPPED LAST MONDAY

- IOS 18.3.1

- IPAD IOS 18.3.1

- WATCH OS 11.3.1

- MAC OS SEQUOIA 15.3.1

# TODAY'S AGENDA

## INTRODUCTION TO ARTIFICIAL INTELLIGENCE

## CHAT GPT

## CO-PILOT

## APPLE INTELLIGENCE

## DEEP SEEK

# WHAT IS ARTIFICIAL INTELLIGENCE (AI)

- ARTIFICIAL INTELLIGENCE (AI) REFERS TO THE CREATION OF COMPUTER SYSTEMS OR MACHINES THAT CAN PERFORM TASKS TYPICALLY REQUIRING HUMAN INTELLIGENCE. THESE TASKS INCLUDE LEARNING, REASONING, PROBLEM-SOLVING, PERCEPTION, LANGUAGE UNDERSTANDING, AND DECISION-MAKING. AI SYSTEMS USE ALGORITHMS AND DATA TO MAKE DECISIONS, OFTEN MIMICKING COGNITIVE FUNCTIONS ASSOCIATED WITH THE HUMAN MIND.

# TYPES OF AI

- 1. NARROW AI (WEAK AI):

- - DESIGNED TO PERFORM SPECIFIC TASKS.

- - EXAMPLES: VOICE ASSISTANTS LIKE SIRI AND ALEXA, RECOMMENDATION ALGORITHMS USED BY NETFLIX AND AMAZON.

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- 2. GENERAL AI (STRONG AI):

- - POSSESSES THE ABILITY TO UNDERSTAND, LEARN, AND APPLY INTELLIGENCE ACROSS A WIDE RANGE OF TASKS.

- - EXAMPLES: THIS IS LARGELY THEORETICAL AT THIS STAGE, WITH NO EXISTING SYSTEMS ACHIEVING TRUE GENERAL INTELLIGENCE.

- 3. SUPER AI – MACHINES INCREASE IN POWER TO "OUTDO" HUMAN INTELLIGENCE – FUTURISTIC

# KEY TECHNOLOGIES IN AI

- 1. MACHINE LEARNING:

- - A SUBSET OF AI WHERE SYSTEMS LEARN FROM DATA AND IMPROVE OVER TIME WITHOUT BEING EXPLICITLY PROGRAMMED.

- - TYPES: SUPERVISED LEARNING, UNSUPERVISED LEARNING, REINFORCEMENT LEARNING.

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- 2..*DEEP LEARNING:

- - A SUBSET OF MACHINE LEARNING INVOLVING NEURAL NETWORKS WITH MANY LAYERS (DEEP NEURAL NETWORKS).

- - EFFECTIVE FOR COMPLEX TASKS LIKE IMAGE AND SPEECH RECOGNITION.

# KEY TECHNOLOGIES

- 3. NATURAL LANGUAGE PROCESSING (NLP):

- - ENABLES MACHINES TO UNDERSTAND, INTERPRET, AND RESPOND TO HUMAN LANGUAGE.

- - EXAMPLES: CHATBOTS, LANGUAGE TRANSLATION SERVICES.

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- 4. COMPUTER VISION:

- - ENABLES MACHINES TO INTERPRET AND MAKE DECISIONS BASED ON VISUAL DATA.

- - EXAMPLES: FACIAL RECOGNITION, AUTONOMOUS DRIVING.

# APPLICATIONS OF AI

1. HEALTHCARE: DIAGNOSTICS, PERSONALIZED MEDICINE, ROBOTIC SURGERY.

2. FINANCE: FRAUD DETECTION, ALGORITHMIC TRADING, RISK MANAGEMENT.

3. TRANSPORTATION: AUTONOMOUS VEHICLES, TRAFFIC MANAGEMENT SYSTEMS.

4. CUSTOMER SERVICE: CHATBOTS, VIRTUAL ASSISTANTS.

5. - ENTERTAINMENT: CONTENT RECOMMENDATIONS, VIDEO GAME AI.

# ETHICAL CONSIDERATIONS

1. BIAS AND FAIRNESS:ENSURING AI SYSTEMS DO NOT PERPETUATE OR AMPLIFY EXISTING BIASES.

2. PRIVACY: PROTECTING USER DATA AND ENSURING TRANSPARENCY IN DATA USAGE.

3. JOB DISPLACEMENT: ADDRESSING THE IMPACT OF AUTOMATION ON EMPLOYMENT.

# WHAT IS AI VIDEO

- HTTPS://WWW.YOUTUBE.COM/WATCH?V=HDD9TCS6JWK

# ABOUT OPEN AI

- *INDUSTRY*

ARTIFICIAL INTELLIGENCE

*FOUNDED*

DECEMBER 10, 2015; 8 YEARS AGO

*FOUNDERS*

    ILYA SUTSKEVER

    ELON MUSK

    GREG BROCKMAN

*HEADQUARTERS*

PIONEER BUILDING SAN FRANCISCO

*KEY PEOPLE*

GREG BROCKMAN-CHAIRMAN & PRESIDENT

SAM ALTMAN CEO

ILYA SUTSKEVER-CHIEF SCIENTIST

MIRA MURATI-CTO

*PRODUCTS*

GPT-4

DALL-E

OPENAI FIVE

CHATGPT

OPENAI CODEX

*NUMBER OF EMPLOYEES*

375

*WEBSITE*

OPENAI.COM (HTTPS://OPENAI.COM/)

# OPEN AI INVESTORS

- INSTITUTIONAL **INVESTORS**

1. MICROSOFT INVESTED $1 BILLION IN OPENAI IN 2019 AND COMMITTED ANOTHER $10 BILLION TO THE AI INNOVATOR IN 2023. THE PARTNERSHIP DEEPENED ALONG THE WAY AS MICROSOFT ADDED OPENAI'S TOOLS TO ITS AZURE CLOUD-COMPUTING SERVICE, TO ITS BING SEARCH ENGINE, AND TO ITS EDGE BROWSER.

2. AMAZON WEB SERVICES WAS AMONG THE ORIGINAL OPENAI FUNDING SOURCES. AWS WAS QUICK TO SET UP VIRTUAL "GYMS" WHERE OPENAI DEVELOPERS AND CLIENTS COULD RUN THEIR AI SOLUTIONS THROUGH A GAUNTLET OF TEST RUNS.

3. INFOSYS WAS ALSO ON BOARD WITH THE OPENAI JOURNEY FROM DAY ONE. VISHAL SIKKA, THE COMPANY'S CEO AT THE TIME, WAS INSPIRED BY ALTMAN'S AMBITION TO CREATE ARTIFICIAL GENERAL INTELLIGENCE (AGI) TO BENEFIT HUMANITY.

4. BIG-NAME VENTURE CAPITAL FUNDS TIGER GLOBAL, SEQUOIA CAPITAL, FOUNDERS FUND, THRIVE, K2 GLOBAL, AND ANDREESSEN HOROWITZ PUT THEIR WALLETS TOGETHER IN APRIL 2023, POURING A TOTAL OF $300 MILLION INTO OPENAI. THE ROUND WAS NOT A TECHNOLOGY PARTNERSHIP BUT A SIMPLE FINANCIAL INVESTMENT WITH THE PURPOSE OF POCKETING LARGE GAINS OVER TIME.

# CHAT GPT
# (GENERATIVE PRE-TRAINED TRANSFORMER)

- CHAT GPT IS AN AI CHATBOT STYLE PROGRAM THAT USES AI TO CREATE RESPONSES TO USERS' PROMPTS. THE CHATGPT CHATBOT HAS THE ABILITY TO GIVE DETAILED, PERSONALIZED ANSWERS THAT TAKE INTO ACCOUNT WHAT THE USER HAS ASKED FOR AND HOW THEY WOULD LIKE TO RECEIVE INFORMATION. FOR EXAMPLE, IF A USER ASKS CHAT GPT TO WRITE A WEDDING SPEECH, CHAT GPT CAN ADD THE APPROPRIATE TONE AND SENTIMENT TO THE SPEECH BASED ON THE USER'S REQUESTS.

- OPEN AI (A COMPANY LOCATED IN SAN FRANCISCO) HAS INTEGRATED NATURAL LANGUAGE PROCESSING (NLP) INTO THE PROGRAM TO ENSURE THE AI UNDERSTANDS THE MESSAGE YOU HAVE TYPED, CAN MAKE INFERENCES FROM IT, AND CAN GENERATE A HUMAN-SOUNDING REPLY.

# HOW TO USE IT

- 1. WEB INTERFACE:
- - VISIT THE OPEN AI WEBSITE (OPENAI.COM) AND NAVIGATE TO THE CHATGPT PRODUCT PAGE.
- - SIGN UP OR LOG IN TO YOUR OPENAI ACCOUNT.
- - ACCESS THE CHATGPT INTERFACE WHERE YOU CAN START TYPING YOUR QUERIES.

- 2, DOWNLOAD GPT FROM THE APPS TORE ON YOUR IPAD OR IPHONE – IT'S A FREE DOWNLOAD

- 3. CHAT GPT PLUS IS A PAID MONTHLY SUBSCRIPTION THAT GIVES YOU MORE OPTIONS AND MORE DETAILED RESPONSES P PLANS START AT $20.00 PER MONTH
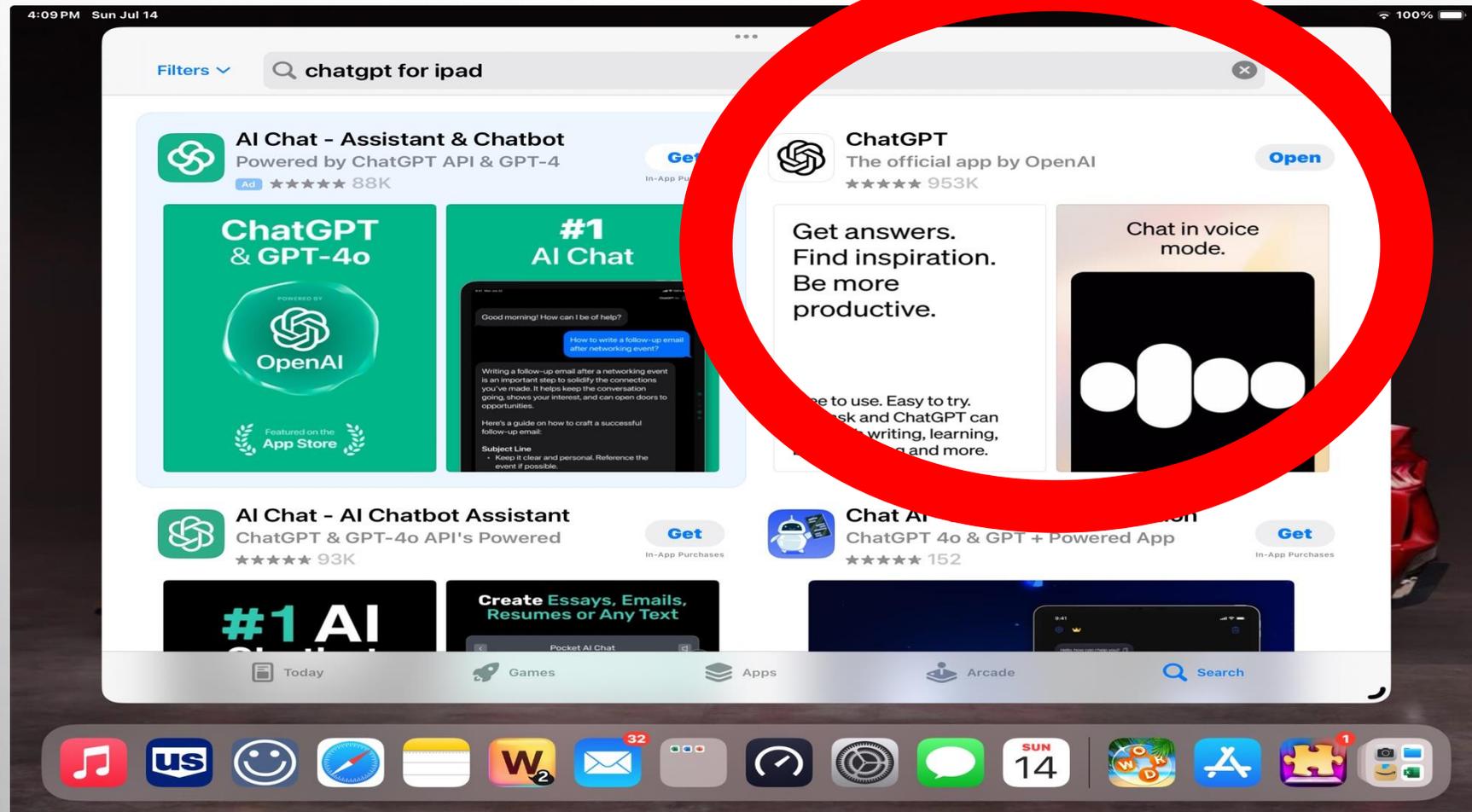- .

# USE CHAT GPT

- 1. BE CLEAR AND SPECIFIC:

- - CLEAR AND SPECIFIC PROMPTS TEND TO GENERATE BETTER RESPONSES. FOR EXAMPLE, INSTEAD OF ASKING "TELL ME ABOUT HISTORY," ASK "GIVE ME A BRIEF SUMMARY OF WORLD WAR II."

- 2. USE CONTEXT

- - PROVIDE CONTEXT WHEN ASKING FOLLOW-UP QUESTIONS. CHATGPT CAN USE PRIOR MESSAGES IN THE CONVERSATION TO GENERATE MORE RELEVANT RESPONSES.

- 3. EXPERIMENT WITH PROMPTS:

- - EXPERIMENT WITH DIFFERENT WAYS OF ASKING QUESTIONS TO GET THE BEST RESULTS. IF AN INITIAL RESPONSE ISN'T WHAT YOU EXPECTED, TRY REPHRASING YOUR QUESTION.

- 4. SET PARAMETERS:

- - USE PARAMETERS LIKE `MAX_TOKENS`, `TEMPERATURE`, AND `TOP_P` TO CONTROL THE LENGTH AND CREATIVITY OF THE RESPONSES.

- - `MAX_TOKENS`: LIMITS THE RESPONSE LENGTH.

- - `TEMPERATURE`: CONTROLS THE RANDOMNESS OF RESPONSES (LOWER VALUES MAKE OUTPUT MORE DETERMINISTIC).

- - `TOP_P`: LIMITS RESPONSES TO THE TOP PROBABILITY MASS (HIGHER VALUES ALLOW MORE CREATIVE RESPONSES).

# EXAMPLES OF USES

- 1. INFORMATION RETRIEVAL:

- - ASK FACTUAL QUESTIONS TO RETRIEVE INFORMATION. FOR EXAMPLE, "WHAT IS THE BOILING POINT OF WATER?"

- 2. CREATIVE WRITING:

- - USE CHATGPT TO GENERATE CREATIVE CONTENT SUCH AS STORIES, POEMS, OR DIALOGUES.

- 3. LEARNING AND EDUCATION:

- - GET EXPLANATIONS OF COMPLEX CONCEPTS, ASSISTANCE WITH HOMEWORK, OR STUDY GUIDES.

- 4. PROGRAMMING HELP:

- - ASK FOR CODE SNIPPETS, DEBUGGING TIPS, OR EXPLANATIONS OF PROGRAMMING CONCEPTS.

- 5. CONVERSATIONAL AGENT

- - INTEGRATE CHATGPT INTO CHATBOTS TO PROVIDE CUSTOMER SUPPORT OR PERSONAL ASSISTANCE.

# CHAT GPT IN THE APP STORE FOR IPAD AND IPHONE

# CHAT GPT PRICING

- FREE

- EXPLORE HOW AI CAN HELP WITH EVERYDAY TASKS

- ACCESS TO GPT-4O MINI

- STANDARD VOICE MODE

- LIMITED ACCESS TO GPT-4O

- LIMITED ACCESS TO FILE UPLOADS, ADVANCED DATA ANALYSIS, WEB BROWSING, AND IMAGE GENERATION

- USE CUSTOM GPTS

# CHAT GPT PLUS PRIING

- LEVEL UP PRODUCTIVITY AND CREATIVITY WITH EXPANDED ACCESS

- EVERYTHING IN FREE

- EXTENDED LIMITS ON MESSAGING, FILE UPLOADS, ADVANCED DATA ANALYSIS, AND IMAGE GENERATION

- STANDARD AND ADVANCED VOICE MODE

- LIMITED ACCESS TO O1 AND O1-MINI

- OPPORTUNITIES TO TEST NEW FEATURES

- CREATE AND USE CUSTOM GPTS

- $20/ MONTH

# CHAT GPT PRO

- GET THE BEST OF OPENAI WITH THE HIGHEST LEVEL OF ACCESS

- EVERYTHING IN PLUS

- UNLIMITED* ACCESS TO O1, O1-MINI, GPT-4O, AND VOICE (AUDIO ONLY)

- HIGHER LIMITS FOR VIDEO AND SCREENSHARING IN VOICE

- ACCESS TO O1 PRO MODE, WHICH USES MORE COMPUTE FOR THE BEST ANSWERS TO THE HARDEST QUESTIONS

- EXTENDED ACCESS TO SORA VIDEO GENERATION

- ACCESS TO OPERATOR RESEARCH PREVIEW (U.S. ONLY)

- *USAGE MUST BE REASONABLE AND COMPLY WITH OUR POLICIES(OPENS IN A NEW WINDOW)

- $200/ MONTH

# ACCESSING MICROSOFT COPILOT

- 1. ENSURE ELIGIBILITY: MAKE SURE YOUR MICROSOFT 365 SUBSCRIPTION INCLUDES ACCESS TO COPILOT. IT IS OFTEN AVAILABLE IN ENTERPRISE PLANS AND MAY REQUIRE ENABLING THROUGH ADMIN SETTINGS.

- 2. UPDATE APPLICATIONS: ENSURE YOUR MICROSOFT 365 APPLICATIONS ARE UP TO DATE TO HAVE THE LATEST FEATURES AND FUNCTIONALITIES, INCLUDING COPILOT.

# USING COPILOT IN DIFFERENT APPLICATIONS

- WORD

GENERATING CONTENT: OPEN WORD, AND YOU CAN FIND COPILOT IN THE TOOLBAR. USE IT TO GENERATE DRAFTS, SUMMARIZE DOCUMENTS, OR PROVIDE WRITING SUGGESTIONS.

COMMAND EXAMPLE**: "CREATE AN EXECUTIVE SUMMARY FOR THIS DOCUMENT."

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EXCEL

DATA ANALYSIS: IN EXCEL, COPILOT CAN HELP ANALYZE DATA, CREATE CHARTS, AND PROVIDE INSIGHTS.

COMMAND EXAMPLE: "ANALYZE THIS DATA SET FOR TRENDS AND CREATE A PIVOT TABLE."

# DIFFERENT APPLICATIONS CONTINUED

- POWERPOINT

- PRESENTATION CREATION: USE COPILOT TO CREATE ENTIRE PRESENTATIONS OR ENHANCE EXISTING ONES WITH DESIGN SUGGESTIONS AND CONTENT GENERATION.

- COMMAND EXAMPLE: "GENERATE A 5-SLIDE PRESENTATION ON THE IMPACT OF CLIMATE CHANGE."

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- OUTLOOK

- EMAIL MANAGEMENT: COPILOT ASSISTS IN DRAFTING, SUMMARIZING, AND PRIORITIZING EMAILS.

- COMMAND EXAMPLE: "SUMMARIZE THE MAIN POINTS OF THIS EMAIL THREAD."

- NATURAL LANGUAGE COMMANDS: COMMUNICATE WITH COPILOT USING NATURAL LANGUAGE. IT UNDERSTANDS CONTEXT AND CAN HANDLE COMPLEX REQUESTS.

- CUSTOMIZATION: YOU CAN REFINE COPILOT'S OUTPUTS BY PROVIDING MORE SPECIFIC INSTRUCTIONS OR EDITING ITS SUGGESTIONS DIRECTLY.

# TIPS FOR EFFECTIVE USE

- BE SPECIFIC: THE MORE DETAILED YOUR INSTRUCTIONS, THE BETTER COPILOT CAN ASSIST YOU.

- EXPLORE FEATURES: EACH MICROSOFT 365 APPLICATION MAY HAVE UNIQUE COPILOT FEATURES, SO EXPLORE AND EXPERIMENT WITH DIFFERENT COMMANDS.

- FEEDBACK: PROVIDE FEEDBACK ON COPILOT'S PERFORMANCE TO HELP IMPROVE ITS ACCURACY AND FUNCTIONALITY.
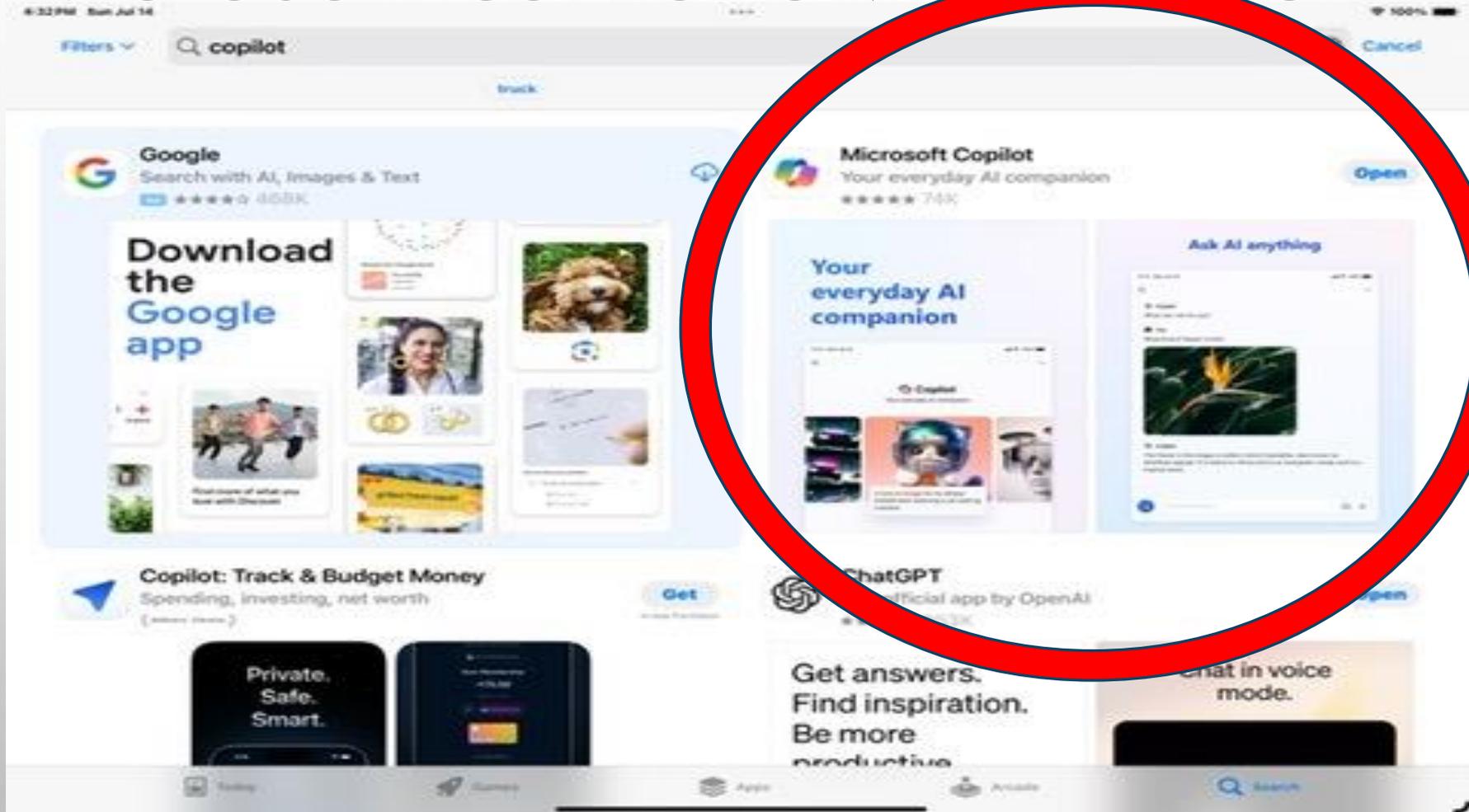
# LEARNING RESOURCES

MICROSOFT LEARN: CHECK OUT TUTORIALS AND GUIDES ON THE MICROSOFT LEARN PLATFORM.

IN-APP HELP: USE THE HELP FEATURE WITHIN MICROSOFT 365 APPLICATIONS FOR SPECIFIC GUIDANCE ON USING COPILOT.

BY INTEGRATING COPILOT INTO YOUR WORKFLOW, YOU CAN SIGNIFICANTLY ENHANCE PRODUCTIVITY AND STREAMLINE VARIOUS TASKS ACROSS MICROSOFT 365 APPLICATIONS.
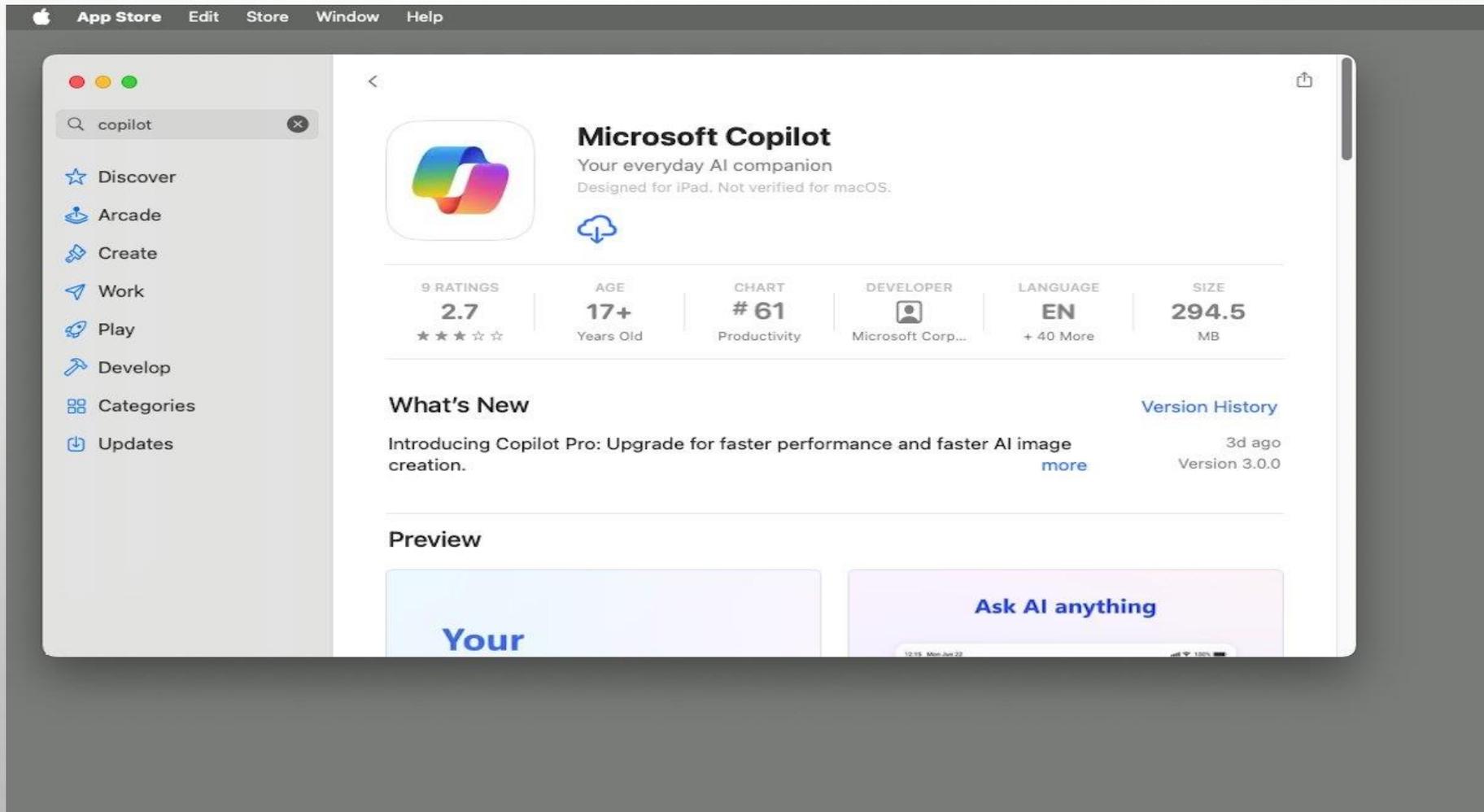
# MICROSOFT COPILOT ON THE APP STORE

# TO ACCESS AND READ ABOUT COPILOT ON THE WEB,

- GO TO COPILOT.MICROSOFT.COM. IF YOU CHOOSE TO LOG IN WITH YOUR MICROSOFT ACCOUNT, COPILOT WILL LEARN FROM AND STORE YOUR PREVIOUS COPILOT SESSIONS SO THAT IT CAN WORK BETTER WHEN YOU USE IT LATER IN FUTURE SESSIONS.

- IF YOU DON'T WANT TO USE SAFARI, YOU CAN DOWNLOAD AND USE THE MAC VERSION OF THE MICROSOFT EDGE BROWSER AND RUN COPILOT FROM THERE.

- YOU CAN ALSO LEARN MORE ABOUT HOW COPILOT WORKS AND HOW TO USE IT ON THE MICROSOFT COPILOT SUPPORT PAGE.

- THERE ARE ALSO WINDOWS VERSIONS OF COPILOT, AND MICROSOFT HAS NOW BUNDLED COPILOT INTO MOST VERSIONS OF WINDOWS 10 AND 11 AND MICROSOFT'S EDGE BROWSER FOR WINDOWS.

- THE WEB-BASED VERSION OF COPILOT IS SIMPLE AND HAS A CHAT PROMPT AT THE BOTTOM OF THE PAGE ALONG WITH SEVERAL BUTTONS FOR GENAI TASKS AND SETTINGS. IF YOU GIVE COPILOT ACCESS TO YOUR COMPUTER'S MICROPHONE, YOU CAN ALSO ASK IT QUESTIONS USING VOICE CONTROL SO YOU DON'T HAVE TO TYPE YOUR PROMPTS.

# INSTALLING COPILOT ON YOUR MAC

- THERE ARE TWO WAYS YOU CAN INSTALL COPILOT ON YOUR MAC:

- [DOWNLOAD IT](#) FROM THE MAC [APP STORE](#) AND RUN IT IN THE FINDER.

- GO TO COPILOT.MICROSOFT.COM IN SAFARI, CLICK THE SHARE BUTTON IN THE UPPER-RIGHT CORNER OF YOUR SAFARI WINDOW, THEN SELECT **ADD TO DOCK** FROM THE SHARE MENU.

- IF YOU INSTALL COPILOT FROM THE SHARE MENU, IT SIMPLY ADDS A WEB SHORTCUT TO THE MICROSOFT COPILOT PAGE IN THE FINDER'S DOCK ON YOUR MAC SO THAT WHEN YOU CLICK IT YOU'RE REDIRECTED TO THE COPILOT WEB PAGE.

- IF YOU DOWNLOAD COPILOT FROM THE MAC APP STORE, YOU GET A STANDALONE MAC APP, WHICH YOU CAN ADD TO YOUR DOCK BY DRAGGING IT THERE OR BY DOUBLE-CLICKING IT IN THE FINDER. WE'LL GET TO THE STANDALONE MAC VERSION IN A MOMENT

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# OBTAINING MS COPILOT FOR MAC

# COPILOT

- HELPING ORGANIZATIONS AVOID DATA PRIVACY CONCERNS ASSOCIATED WITH CLOUD-BASED SOLUTIONS .

- 5. **MULTIMODAL AND TASK-ORIENTED AI**: AI SYSTEMS ARE BECOMING MORE MULTIMODAL, INTEGRATING VARIOUS STREAMS OF INFORMATION FOR SEAMLESS INTERACTION. THIS ENHANCES THE CAPABILITIES OF VIRTUAL AGENTS, ALLOWING THEM TO PERFORM COMPLEX TASKS SUCH AS MAKING RESERVATIONS, PLANNING TRIPS, AND CONNECTING TO OTHER SERVICES BASED ON USER INPUTS FROM DIFFERENT MODALITIES (E.G., TEXT, IMAGES)

- $20.00 MONTH

# APPLE INTELLIGENCE

ARTIFICIAL INTELLIGENCE (AI) INITIATIVES BY APPLE: APPLE HAS INTEGRATED AI AND MACHINE LEARNING INTO MANY OF ITS PRODUCTS AND SERVICES, SUCH AS SIRI, FACE ID, AND THE CAMERA FUNCTIONALITY IN IPHONES. APPLE'S AI WORK ALSO INCLUDES THE DEVELOPMENT OF THE CORE ML FRAMEWORK, WHICH ALLOWS DEVELOPERS TO INTEGRATE MACHINE LEARNING MODELS INTO THEIR APPS

CURRENTLY INCLUDED IN SELECT APPLE DEVICES AND WITH APPLE ICLOUD PLUS SUBSCRIPTION

# APPLE INTELLIGENCE

https://www.youtube.com/watch?v=Q_EYoV1kZWk

DeepSeek and ChatGPT are both AI chatbots that can answer a wide range of questions. DeepSeek is better for technical tasks, while ChatGPT is better for creative tasks and general knowledge.

|  | DeepSeek | ChatGPT |
| --- | --- | --- |
| Focus | Technical tasks, like coding and math | Creative tasks, like writing and brainstorming |
| Response style | Detailed, with background information and suggestions | Concise and straightforward |
| Best for | Rapid code generation, structured queries | Learning, complex implementations, general knowledge questions |
| User interface | Basic, task-oriented | Polished, interactive, with voice mode and chat history |

# ADDITIONAL DETAILS
# CHAT GPT VS DEEP SEEK

- DEEPSEEK IS A CHINESE COMPANY THAT FOCUSES ON CHINESE LANGUAGE AND CULTURE.

- CHATGPT IS DESIGNED FOR CONVERSATIONAL APPLICATIONS AND SUPPORTS MULTIPLE LANGUAGES.

- DEEPSEEK IS TRAINING TO ACHIEVE ARTIFICIAL GENERAL INTELLIGENCE (AGI).

- CHATGPT IS FASTER AT DELIVERING ANSWERS, BUT YOU MIGHT NEED TO PROMPT IT MULTIPLE TIMES FOR MORE COMPLEX TOPICS.

# MY 2 CENTS

- IF YOU USE MICROSOFT PRODUCTS THEN CO-PILOT IS YOUR BEST BET

- IF YOU JUST WANT GENERAL AI RESPONSES THEN CHAT GPT IS AN EXCELLENT CHOICE

- THE JURY IS OUT ON APPLE INTELLIGENCE BUT APPEARS TO BE TIED IN CLOSELY WITH APPLE APPS…SO THAT APPLE INTELLIGENCE IS THE WAY TO GO

# DEEPSEEK VS CHAT GPT

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# PERFORMANCE STRENGTHS

- EACH MODEL SHINES IN DIFFERENT AREAS. DEEPSEEK HAS SHOWN IMPRESSIVE CAPABILITIES IN TECHNICAL TASKS, PARTICULARLY EXCELLING IN MATHEMATICS WHERE IT ACHIEVES A 90% ACCURACY RATE - NOTABLY HIGHER THAN MANY COMPETITORS. THIS MAKES IT PARTICULARLY VALUABLE IF YOU ARE WORKING ON TECHNICAL PROBLEMS. CHATGPT, HOWEVER, DEMONSTRATES STRONGER CAPABILITIES IN UNDERSTANDING CONTEXT AND PROVIDING MORE NUANCED RESPONSES ACROSS A BROADER RANGE OF TOPICS.

# ACCESSIBILITY AND COST

- ONE OF THE MOST PRACTICAL DIFFERENCES IS HOW YOU CAN ACCESS AND USE THESE TOOLS. DEEPSEEK TAKES AN OPEN-SOURCE APPROACH, MEANING IT'S FREELY AVAILABLE AND CAN BE MODIFIED BY THE COMMUNITY. THIS IS PARTICULARLY VALUABLE IF YOU WANT TO UNDERSTAND OR CUSTOMIZE THE UNDERLYING TECHNOLOGY. CHATGPT OPERATES ON A FREEMIUM MODEL, OFFERING BASIC FEATURES FOR FREE BUT REQUIRING A SUBSCRIPTION FOR ADVANCED CAPABILITIES

# THE FUTURE OF AI

- 1. **ADVANCEMENTS IN DEEP LEARNING**: DEEP LEARNING TECHNIQUES, PARTICULARLY IN AREAS LIKE NATURAL LANGUAGE PROCESSING (NLP) AND COMPUTER VISION, CONTINUE TO EVOLVE. FUTURE ADVANCEMENTS MAY LEAD TO EVEN MORE SOPHISTICATED MODELS CAPABLE OF HIGHER LEVELS OF ABSTRACTION AND UNDERSTANDING.

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- 2. **AI IN EDGE COMPUTING**: AS COMPUTING POWER CONTINUES TO MINIATURIZE AND BECOME MORE EFFICIENT, AI APPLICATIONS ARE INCREASINGLY BEING DEPLOYED AT THE EDGE (ON DEVICES) RATHER THAN SOLELY RELYING ON CLOUD INFRASTRUCTURE. THIS TREND ENABLES FASTER PROCESSING, LOWER LATENCY, AND GREATER PRIVACY.

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- 3. **EXPLAINABLE AI (XAI)**: THERE IS A GROWING EMPHASIS ON MAKING AI SYSTEMS MORE TRANSPARENT AND INTERPRETABLE. XAI TECHNIQUES AIM TO ENHANCE TRUST BY PROVIDING EXPLANATIONS FOR AI DECISIONS, CRUCIAL FOR CRITICAL APPLICATIONS IN HEALTHCARE, FINANCE, AND LAW.

- 4. **AI ETHICS AND GOVERNANCE**: ETHICAL CONSIDERATIONS AROUND AI, SUCH AS BIAS MITIGATION, FAIRNESS, ACCOUNTABILITY, AND PRIVACY, ARE BECOMING MORE PROMINENT. FUTURE DEVELOPMENTS WILL LIKELY INVOLVE STRICTER REGULATORY FRAMEWORKS AND INDUSTRY STANDARDS TO ENSURE RESPONSIBLE AI DEVELOPMENT AND DEPLOYMENT.

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- 5. **AI IN HEALTHCARE**: AI IS POISED TO REVOLUTIONIZE HEALTHCARE THROUGH IMPROVED DIAGNOSTICS, PERSONALIZED TREATMENT PLANS, AND DRUG DISCOVERY. THIS INCLUDES APPLICATIONS IN MEDICAL IMAGING ANALYSIS, GENOMICS, AND PATIENT MONITORING.

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- 6. **AUTONOMOUS SYSTEMS AND ROBOTICS**: AI-DRIVEN ADVANCEMENTS IN ROBOTICS ARE ENABLING MORE CAPABLE AUTONOMOUS SYSTEMS FOR TASKS RANGING FROM MANUFACTURING AND LOGISTICS TO HEALTHCARE AND AGRICULTURE. EXPECTATIONS INCLUDE SAFER, MORE EFFICIENT OPERATIONS IN VARIOUS INDUSTRIES.

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