PATACS Posts

Newsletter of the Potomac Area Technology and Computer Society

My turn……

First, let's welcome to 2025!

Second, wow, ...busy............busy. Obviously, I don't know how you fared through the holidays, but we were, as noted "busy.........busy". We had the pleasure of spending three weeks in Hawai'i, the first ten days of which were with grandson #1 and his parents. One can fly in two hops to Hawai'i: the first to the West Coast and then the 2nd to the islands, OR United flies a seasonal non-stop from Dulles to Honolulu. It's a looooooooong flight, taking nearly eleven and a half hours—like flying to the Middle East. Our flight was even longer. The inbound flight to Dulles (IAD) was late and so our boarding at Dulles was about an hour late. Because of the weather, the plane had to be de-iced, which added another 90 minutes or so. We were two and a half hours late leaving IAD, but the crew were able to make up some time in the air. As long as the flight is, the plane is nicely larger (a multi-aisle plane) than one only going to the West Coast. United uses a 767 because a single-aisle plane simply can't fly the nearly 5000 miles to Honolulu non-stop.

As a life-long *Washington Football Team* fan, I had great pleasure watching the Commanders—a name I *hate* because it's from the era of *The Danny* (aka Daniel Snyder, the former owner) era—do the unexpected and beat Tampa Bay and then do the even more unexpected again this past weekend and destroy the Detroit Lions. Next week: the Eagles. Will the magic continue? Time will tell.

Some of you participated in a recent Club survey and we—your Board of Directors—thank you. President Paul Howard will draw the conclusions in an article later in the year. There were two diametrically opposed comments regarding this newsletter: one person said they didn't like my "editorials". The other person said the exact opposite (that they did). What's interesting about this? Neither of them bothered to tell me! I'm curious if you find that interesting?

Let's see how it pans out.......

Once again, I used one of my photos as "filler" in some big white space, below. **But what about you?** Do you have an image or two that you'd like to share? If so, send a copy to me at editor@patacs.org (in JPG format at 320 DPI). Please include the details of where and how you made the image and your device's settings, if you have them. I'd love to share the space with you.

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The Artificial Intelligence Explosion: An Ever-Changing Topic

By Jim Cerny, 1st Vice President and Hewie Poplock, 2nd Vice President
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Artificial intelligence (AI) is a term we've all encountered, and its impact is already evident in various sectors such as business, education, entertainment, art, manufacturing, research, and health care. However, this is just the beginning. The potential of AI to revolutionize our lives is immense, possibly surpassing the transformative effects of computers and electronics. Are you prepared for this future?

Many people see the AI revolution as bringing huge benefits. If you have been using a search engine on the internet to get information you want or need, AI can do more by providing intelligent results to your searches. Try using the following free AI internet sites and seeing the results of your inquiries:

- ChatGPT (https://chat.openai.com/) - Chatbot from OpenAI that can have natural conversations and generate human-like text on various topics.

- DALL-E 2 (https://labs.openai.com/) - AI image generator from OpenAI that creates images from text descriptions.

- Hugging Face Spaces (https://huggingface.co/spaces) - Platform to build, train, and deploy machine learning models, mainly focused on natural language processing.

- Perplexity (https://www.perplexity.ai/) The answer to any question.

- Anthropic Claude (https://claude.ai/chat/) - Conversational AI assistant trained to be helpful, harmless, and honest.

- Gemini (https://gemini.google.com/) is a conversational AI chatbot from Google. It is meant to function similarly to ChatGPT, with the biggest difference being that Google's service pulls its information from the web.

- Co-Pilot from Microsoft. An AI-powered digital assistant that aims to provide personalized assistance to users for a range of tasks and activities. Copilot is integrated with Microsoft's Edge browser. https://www.microsoft.com/en-us/edge/

- Leonardo (https://leonardo.ai) is a generative AI platform that empowers users to effortlessly generate captivating images and artwork.

- NightCafe (https://creator.nightcafe.studio/). Create unique artworks in seconds using the power of artificial intelligence.

Since AI is going to affect almost every area of life on this planet, how is AI going to affect you, and how are you going to handle it? The STUG organization has some experienced AI users who will help guide STUG in helping our members understand and use AI. No matter what your life interest is, AI will affect it. You can start by asking Google or an AI website something like "How will AI affect art?" or "How will AI help with my investments?" or "How do I use AI to create a photo?" Yes, AI already affects all areas of your life, even if you do not realize it. You can watch many videos to learn more about all aspects of AI.

Creative AI can write stories, create works of art, and amaze us. Humans may review what AI has created, "touch it up," or add pieces later. As an example, AI is already affecting those who make their living writing by doing most of the work.

AI technology impacts many industries, transforming how they operate and interact with customers and employees. Here are some sectors that are being heavily affected by AI:

- Marketing: AI can predict what customers might want to buy. It helps companies show customers suitable ads.

- Retail: AI helps keep track of inventory and can recommend products that each customer might like. Some stores even have robot helpers that can answer customer questions.

- Insurance: AI can quickly process claims and detect fraud to help the company run smoothly.

- Banking/Finance: Banks use AI chatbots and virtual assistants to make banking more accessible for customers. AI also watches for fake charges on your account.

- Education: AI tutors can adapt to each student and help them learn at their own pace. It can grade papers and free up time for teachers.

- Healthcare: AI is making significant advancements in healthcare, from diagnosing diseases and analyzing medical images to drug discovery and personalized medicine. It has the potential to improve patient outcomes and streamline healthcare processes.

- Manufacturing: AI is integrated into manufacturing processes to optimize production, improve quality control, and enable predictive maintenance. It is revolutionizing the way products are designed, produced, and delivered.

These are just a few examples of industries that AI is heavily impacting. However, it's important to note that AI is a rapidly evolving field, and its impact is not limited to these industries alone. AI can potentially disrupt and transform other sectors, such as transportation, agriculture, energy, etc.

There are also downsides to AI. Many jobs will be affected, and people must adapt to different situations. For example, when steam trains went to diesel, firemen were no longer needed—and now there are no train cabooses either (Ed: but it does reduce fuel consumption a bit)!

Perhaps a good AI concept summary example could be in the area of law. An AI "lawyer" would have all the knowledge of previous similar court cases and create a perfect prosecution or defensive argument. The judge and jury would have to make the decision. But what if AI makes the decision itself? Would that not be better than any human judge?

Can you imagine more of what AI will do? It staggers our human intelligence!

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# Another Look at Artificial Intelligence

By Joel Ewing, President, Bella Vista Computer Club,   president@bvcomputerclub.org
https://bvcomputerclub.org

Background

Although having a background in Computer Science, I do not consider myself an expert on AI; but like many, I have seen over the last decade the improved (but not perfect) ability of smartphones to translate the spoken word into written text, chatbots on the Internet and telephone call centers that can briefly make you think you have reached a human, and the fairly sophisticated behavior of "self-driving" cars, including some experiments with autonomous self-driving vehicles in restricted environments.

When in full "self-driving" mode, a Tesla car can recognize enough of the environment around it to sense and follow lane markings, sense other vehicle types and their relative speeds on all sides, interpret speed limit signs, stop signs, stop lights, a variety of warning signs, speed limit signs, adjust speed for sharp curves and slower vehicles, to make decisions on passing slower vehicles. When navigation mode to a destination is engaged, an extensive road map database allows it to know when to turn and what lane it needs to be in for the next turn, to suggest the optimal super

charger stations for long trips, and to automatically pre-condition the battery temperature for optimal charging speed before arriving at a charging station to minimize charging time. Yet with all that sophistication, Tesla's most important safety features are (1) monitoring the human driver for alertness and (2) alerting the human driver to take over if the road conditions go outside the bounds the automation can reliably handle. This is great for removing much of the monotony of long-distance driving on consistently marked interstate highways but not so valuable for city driving, where road repairs, obstructions, and local driving customs tend to demand more human interaction.

Input Layer   Hidden Layer   Output Layer
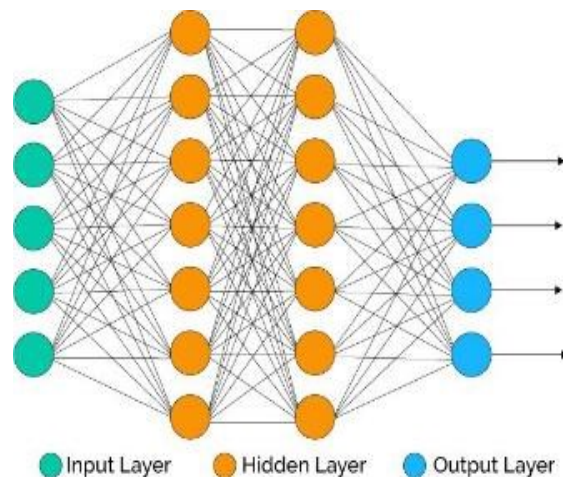
The topic of AI was recently raised in a professional computer-related online discussion list I follow. I have also been involved in a church-related Religion & Science group meeting on Zoom over several years that has discussed, among other topics, whether humans are the only life forms on Earth that are conscious or aware, AI, and whether machines could ever cross the thresholds of self-awareness and become aware and direct competitors of humans, possibly even a threat. Some of the following thoughts come from those discussions.

AI Current Capabilities

AI may easily surpass humans in the ability to analyze and deduce conclusions from a large amount of data and propose actions – it already has done that in some areas that are sufficiently limited in scope.

AI is already being utilized to assist in medical diagnosis, such as interpreting medical scans, where large scans may need to be analyzed tediously to look for minor anomalies.

Many Internet search engines utilize some AI techniques to improve the quality of the results.

Some of the more interesting recent free Internet search additions are ChatGPT, BardAI, and BingAI, which can accept queries in natural language and return paragraph responses that appear appropriate, almost human-like. It is possible to request responses in the form of specific types of poetry (ChatGPT) or to request the creation of an image featuring certain objects (BingAI).

Without getting too much into details, at least two main techniques are involved under the covers for the deep learning of advanced AI: trained digital neural networks and large databases created by analyzing many natural language sources of information.

Digital neural networks attempt to emulate the brain's design on a small scale. The idea is that you have a large number of nodes (neurons) that are interconnected to nearby layers of the network, but that each of the interconnections can be adjusted by giving a "weight" to each of the connection paths to determine what strength of incoming signals is sufficient to activate the neuron. To "teach" a neural network, you must supply many different combinations of input signals (on the left), for which the desired output (on the right) is known, and modify the weights so that the correct outputs are obtained for as many as possible, hopefully, all, input value combinations. This is a computationally expensive and, thus, energy-intensive process, but once the best weights are

obtained, it is easy to replicate the neural network. The illustration above only has 23 nodes. A useful neural network may have thousands.

Neural networks are particularly useful for cases without clear written rules for arriving at the outputs, such as pattern recognition of images and sounds, interpreting the ambiguous parts of natural language speech and text, and predicting large social system behavior like the stock market. While it can be hoped that a new combination of inputs not used in the training process will also produce reasonable outputs, this is not guaranteed and heavily depends on how the training data was chosen. Another drawback of neural networks is that there is no way to explain how they arrived at any specific output from some specific input.

It is clear from ChatGPT's behavior that it has access to an extensive database of contemporary and historical literature. Whether that should include those materials still under copyright protection is debated as to whether that violates fair-use restrictions. To be of greatest use, the natural language must be parsed to determine what is being discussed (nouns) and related descriptions (adjectives) and actions (verbs) and deduce further relationships. From that, it is possible to produce indexes and statistical probabilities of relationships. Applying a similar parsing to information requests, it is possible to either find sentences or paragraphs relevant to the query or (more complex) possibly construct "original" relevant sentences based on known associations with the query topic.

AI Limitations

One problem that needs to be addressed is that a considerable amount of data is loose in the real world which is misinformation, and too much garbage-*in* still produces garbage.

Many humans have problems telling the difference between fact and fiction and between reality and conspiracy theories. Humans have biases in their data choices, and humans will choose the data sources to program future AI. Human data choices will inevitably cause some problems.

Every year you find people, sometimes prominent people, who stumble across a parody or satire written in the style of a news article, mistake it for real news, and make a fool of themselves by calling others to take action against the alarming "news" they have just uncovered. Such humor is usually so over-the-top that it is easily recognized by ordinary people aware of current events. However, some still take it as factual, even if it is on a website like "The Onion," which is well-known for only publishing imaginary news releases.

One needs to understand that while AI can provide helpful guidance within the realm for which it has been trained, it is not infallible. If you ask a neural network to categorize an unexpected combination of inputs, it may make an incorrect identification. Suppose you ask an AI system trained from analyzed text about a topic that lacks accurate information. In that case, it may make incorrect inferences from data that it thinks are similar because they appear statistically related. Even if it has processed relevant information, it may not be able to accurately interpret context, implicit relationships, and time ordering of relationships. If you ask an ambiguous question ("Show me something like X"), the AI may not understand the distinction between creating something fictional that looks like "X" versus finding a fact like "X."

There have already been at least two instances reported in the news of a judge berating attorneys for submitting supporting briefs referencing legal precedents that didn't exist because some AI system created a plausible fictional reference to support their legal argument.

The general public is already indifferent to AI's limitations and abusing AI: asking questions of AI apps in areas where the AI is poorly trained and trusting without verification of fallible responses as being authoritative because a machine produces them. Some newsworthy cases of this abuse have been reported when fatalities result after owners of cars with AI autopilots requiring supervision find ways to entrust the AI with unsupervised autonomous driving, and a crash occurs when the AI encounters situations it is not designed to handle.

Could AI be Dangerous?

Some theorize that if we could build a neural network of enough complexity – many orders of magnitude larger than possible today—at some point—a threshold might be passed. That creation might become self-aware and possibly worthy of being called sentient. What discoveries such a tool could make and create! The problems are multi-fold: if it has more knowledge than any human and can exercise creative thought faster than any human, its analysis of human history may lead it to the conclusion it should be the master, not the enslaved person, of humans. This fear has long been a persistent cautionary theme of science fiction writers. In the fictional Dune prequel *The Battle of Corrin*, where sentient machines and humans have long been at war, there is a fictional quote from the sentient robot Erasmus: "Humans were foolish to build their competitor – but they couldn't help themselves."

Suppose we were to succeed in creating machines that could truly approach the complexity and creativity of the human mind. Might they not also be subject to some of the same dangerous mental instabilities as human minds when confronted by conflicting "facts" or subtle design deficiencies? Fatal problems like those afflicted the fictional HAL 9000 in *2001: A Space Odyssey* and the M-5 Multitronic computer in "The Ultimate Computer" Star Trek episode.

I don't think we are at any risk within my lifetime of finding a way to cross that threshold, but that doesn't mean that we shouldn't be concerned that AI in its present state has the capability of causing harm.

AI-based tools used by financial institutions to evaluate whether to approve or deny credit requests have been found to exhibit bias against granting loans to those in minority groups. The AI tools were programmed using data about loans that had been approved subject to historical biases against minorities. Without great care in programming, AI can be used to justify that there is no bias when the reality is that the bias was included in the AI programming and is just more hidden.

Another way we are already seeing AI being abused is by its use to create and spread misinformation on the Internet. While not perfect, it is already good enough to produce deep-fake video and audio and false news reports and control bots on social media networks that spread messages to promote and amplify division and hate. There is some hope that it may be possible to employ AI on the other side to detect and suppress such abuse, but that does require corporations to accept that responsibility.

Another area that should be a serious concern is the possibility that AI could be given the power to make and implement life-and-death decisions without adequate human oversight or just to propose actions that humans might blindly follow in a life-or-death situation. The science fiction genre is full of plots suggesting how badly this can go – possibly human enslavement or extinction.
When you grant AI the power to make decisions and take actions in the real world, most of us want "intelligence" involved: wisdom, and morality. Most of us want decisions made by others that impact

our lives to be constrained by a moral compass of what is right and fair. We have no idea how to build that awareness into AI, and since there is no universal agreement on whose standard of morality to use, that may be an impossible task. Even if there were agreement on defining morality and embedding that concept into AI, do we trust fallible humans to implement that design consistently without error?

A legitimate concern is that if future AI regulation or its enforcement is inadequate, some individual or corporation with more power and money than wisdom may go rogue, ignore whatever AI restrictions are in place or commonly accepted, and create a dangerous AI device because of a belief it will enhance their short-term profit.

We must be very cautious about what kinds of decisions and actions we entrust to AI in the short and long term. We also need to research how best to enforce that caution. Perhaps future AI, appropriately applied, might even become part of the solution.

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AI – What Next?

By Tom Burt, Vice President, tomburt89134@cox.net
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I recently came across an article from TechRepublic reviewing Intel's new Core Ultra and Xeon CPU chips with onboard support for AI. Here's the link to that article: https://www.techrepublic.com/article/intel-ai-everywhere-event-2023.

A friend replied, "Really interesting! What's Next?" In this article, we'll explore that question.

My first thought was, "What is AMD doing?" I ran a quick web search and immediately found that AMD has a family of Ryzen AI CPUs offering AMD's XDNA architecture. Here's a link to AMD's web page: https://www.amd.com/en/products/processors/consumer/ryzen-ai.html

My next thought was, "What is ARM doing?" Sure enough, ARM also has CPU chips with onboard support for AI. ARM CPUs are the dominant chips on cell phones, tablets, and recent Apple devices. Here's a link to ARM's web page: https://www.arm.com/markets/artificial-intelligence

So, all of the major CPU chip families used in servers, PCs, laptops, and mobile devices incorporate onboard AI support. AI apps like ChatGPT, Bard, and Claude can run on your PC, laptop, or mobile device rather than on a cloud-based server farm. As this technology rolls out over the next few years, it will augment the available worldwide AI processing power by several billion devices.

Futurism

Usually, I avoid trying to predict the future, especially with technology. Reality tends to outstrip even "far-out-there" predictions. However, I have to make a few SWAGs in a "What's Next?" article, especially since I'm writing this at the beginning of the new year. However, I'll probably look at this a few years from now and laugh wryly at my naiveté. Let's look at areas where this new onboard CPU support for AI may significantly impact.

Speech Recognition and Generation

Speech recognition has come a long way since my software engineering days at Citibank's Transaction Technology Institute in the mid-1980s. Today, we are at the point where humans can talk to machines using natural, colloquial language and be understood. Even accented speech can be understood. Further, machines can now speak in natural voices and be easily understood by humans.

Machines can also translate textual content from one language to another. Combining translation with voice recognition and synthesis brings us to the realization of the science fiction concept of a universal translator.

A quick search on Google turned up two Android apps and an iOS app that offer this functionality today:

https://play.google.com/store/apps/details?id=com.speakandtranslate.voicetranslator.alllanguages&hl=en_US&gl=US

https://play.google.com/store/apps/details?id=com.erudite.translator&hl=en_US&gl=US

https://apps.apple.com/us/app/itranslate-voice/id522626820

Google Translate can recognize speech and translate it.

Currently, these apps, while very capable and well-rated, seem to depend on cloud-based servers for the actual translation intelligence. This means their ability to function depends on having an Internet connection. As the new CPU chips mentioned above become commonplace in mobile devices, look for more of this functionality to operate on the mobile device itself with better performance.

If you're a regular Zoom user, you've likely come across its live captioning and transcription features. Zoom can do real-time voice recognition of all the voices on a Zoom session and display the speech as text in a running window at the bottom of the screen. This is a huge aid to hearing-impaired participants. Similar technology is now providing captioning for online videos and other audio streams. For Android and iOS smartphones, there are Live Transcription apps: https://play.google.com/store/apps/details?id=com.google.audio.hearing.visualization.accessibility.scribe

https://apps.apple.com/us/app/live-transcribe/id1471473738

Looking ahead, with advanced CPU chips in smart TVs it becomes feasible for the TV to generate live captions of any incoming audio stream automatically and do on-the-fly translation of the source audio stream language to another language.

Customer Service

Customer service is a fertile area for applying voice recognition and synthesis. Consider a service application that can run on your smartphone, tablet, laptop, or desktop or a service kiosk, displaying a photo-realistic human face and torso, that can converse colloquially with you in any

language and has a vast knowledge of the business's products, services and policies, federal, state and local regulations and has the reasoning and operational skills needed to resolve virtually all classes of customer support problems.

Customer Service is a huge cost for all businesses, a large part of which is recruiting and training service representatives. The service activity often has a high turnover rate, meaning the training expense is recurring. Also, policies and products may change frequently, requiring training updates for existing staff. An essential virtue of a "smart" customer service application is that only one master copy of the application needs to be updated, and those updates can be replicated automatically and nearly instantly in all instances of the application. Another virtue is that a "smart" service application is tireless – it will work 24 hours/day, 365 days/year, and doesn't get sick, take vacations, or lose patience with demanding customers.

Every business is somewhat different; consequently, its customer service applications must be customized. Having on-chip AI support in the CPUs of the business's in-house servers will make it easier to keep this customization and give better performance than depending on cloud-based servers. It also gives the business greater control over what data stays "in-house."

AI Companions

AI companions are an evolution of "smart" assistants like Siri, Alexa, and Cortana. Here are two articles that discuss the state of AI companion services:

https://cybernews.com/tech/ai-companions-explained/

https://theweek.com/tech/the-pros-and-cons-of-ai-companions

These systems today run on cloud servers, but with advanced AI CPUs, they should evolve to run directly on users' devices. Using an AI CPU within a personal computer will provide better performance and prevent some concerns about personal information learned by these companions from being in the cloud.

Merging of AI and Robotics

In the past few years, there have been significant advances in robotics. Robots can now "see" via cameras, radar, and lidar and "hear" via microphones. These sensors have helped in factory automation and many other repetitive actions. Self-driving vehicles are a reality, though they still need refinement.

There's also a lot of work on humanoid robots–robots with a head, torso, arms, hands, and feet–that can perform tasks traditionally done by humans. These robots have been research projects but are beginning to be deployed in manual labor settings. Here are two links that survey what's current in the field. The YouTube video is quite remarkable.

https://builtin.com/robotics/humanoid-robots
https://www.youtube.com/watch?v=gFp18nW7p34

The humanoid robotic form has some challenges: the mechanical and software algorithms to keep the robot upright, especially on stairs and uneven terrain, are complex. The many small actuators

needed to animate the robot's limbs draw a lot of power, which requires a large battery pack and regular recharging every few hours.

With advanced AI support in the CPU chips powering robots of all types, the robots should have more autonomy; they won't need to access the Internet cloud as much to provide their "intelligence." I can foresee a time not very far in the future when humanoid robots may serve as effective caregivers, nannies, servants, and companions in home and institutional settings. This could significantly improve the quality of life for aging seniors who are often alone and frail.

Final Thoughts

As is often the case, I've barely scratched the surface of the vastness of artificial intelligence. I kept thinking of more things to discuss as I wrote this article. I'll return to this topic now and then in 2024, both in articles and in a few of my monthly seminars.

Robotics and AI are not without concerns. Human workers, especially those in lower-skilled manual and clerical jobs, will likely be displaced. Even in creative professions, AI may be able to replace many workers by automatically synthesizing new works of art. Society must have a plan for repurposing these displaced workers.

AI will affect business, generally making it more efficient and productive. However, it can also make it easier for companies to manipulate consumers.

AI can amplify the power of government for good and evil. In the hands of despots, AI could become the ultimate tool for imposing tyranny. Used for good, AI may vastly elevate happiness and prosperity worldwide.

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An Article Written by Generative AI (Perplexity.ai) about AI

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What is Generative AI?

According to Wikipedia, "Generative artificial intelligence (generative AI, GenAI, or GAI) is a subset of artificial intelligence that uses generative models to produce text, images, videos, or other forms of data. These models often generate output in response to specific prompts. Generative AI systems learn the underlying patterns and structures of their training data, enabling them to create new data." The summary statements provided at the top of most search engines are created using Generative AI.

The Results Speak for Themselves

I asked Generative AI (i.e., Perplexity.ai) to "write a one-page article at the 14th grade level about the pros and cons of using Generative AI." The font was changed but the document with sources is otherwise written by Perplexity.ai. The results are provided below in an article titled...

Generative AI: A Double-Edged Sword of Innovation

Generative artificial intelligence (AI) has emerged as a transformative technology, revolutionizing various industries and sparking both excitement and concern. This advanced form of machine learning, capable of producing text, images, and other content types, offers a plethora of advantages while simultaneously presenting significant challenges.

Advantages of Generative AI

Generative AI's primary strength lies in its ability to enhance creativity and productivity across diverse fields. In the realm of content creation, it serves as an inexhaustible wellspring of ideas, capable of generating everything from marketing copy to artistic concepts. [1]

This technology has democratized creative processes, lowering barriers to entry for tasks that once required specialized skills or extensive time investments. [1]

In the business world, generative AI has become a powerful tool for efficiency and automation. By taking on repetitive tasks and streamlining workflows, it allows human workers to focus on higher-value activities that require nuanced judgment and strategic thinking. [3]

Moreover, the technology's capacity for data analysis and problem-solving makes it an invaluable asset in fields ranging from scientific research to financial modeling. [1]

Personalization at scale represents another significant advantage of generative AI. In industries such as marketing and e-commerce, AI-driven systems can tailor content and recommendations to individual preferences, potentially enhancing customer engagement and satisfaction. [3]

Challenges and Concerns

Despite its promise, generative AI is not without drawbacks. One of the most pressing concerns is the potential for generating inaccurate or misleading information, a phenomenon often referred to as "AI hallucinations". [1]

This issue raises questions about the reliability of AI-generated content and the need for robust fact-checking mechanisms. Ethical considerations also loom large in the generative AI landscape. The technology's ability to create deepfakes and other forms of synthetic media has sparked debates about privacy, consent, and the potential for malicious use. [2]

Additionally, the use of copyrighted material in training datasets has led to complex legal and moral questions regarding intellectual property rights. [1]

The economic implications of generative AI are another area of concern. While the technology promises increased productivity, it also has the potential to displace human workers in certain industries, particularly those involving creative or repetitive tasks. [3]

This raises important questions about workforce adaptation and the need for reskilling initiatives. Data privacy and security represent additional challenges in the deployment of generative AI systems. The vast amounts of data required to train these models raise concerns about the protection of personal information and the potential for data breaches. [3]

Conclusion

Generative AI stands at the forefront of technological innovation, offering unprecedented capabilities in content creation, data analysis, and problem-solving. However, its adoption must be tempered with careful consideration of its limitations and potential negative impacts. As we continue to integrate this powerful technology into various aspects of our lives and work, it is crucial to develop robust frameworks for its ethical use, ensure transparency in its applications, and address its societal implications. Only by striking a balance between innovation and responsibility can we fully harness the potential of generative AI while mitigating its risks.

Sources:

[1] https://www.investopedia.com/generative-ai-7497939
[2] https://www.accessitgroup.com/ghoulishly-good-or-eerily-iffy-the-advantages-and-disadvantages-of-generative-ai/
[3] https://digitaldefynd.com/IQ/generative-ai-deep-analysis/

(Editor's note: The AI output apparently did not format the footnotes correctly. It did not put periods at the ends of some sentences. I have fixed both of those issues.)

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Apps You Run on Your Computer Are ".exe" files
By Jim Cerny, 1st Vice President, JimCernyz@gmail.com
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Your device (Windows or Apple computer, iPhone, iPad, or whatever) runs "apps," which is a term short for "applications". An app is a program or a set of instructions for the computer to execute or "run." They are why you have your device. Although apps can run on any device, to keep it simple, let's look at how an "app" runs on a Windows computer (almost the same on any device).

When you purchase your device (Windows computer), it comes with many apps that have already been installed and are ready to go. Some very helpful apps with Windows are WordPad, Paint, Calculator, and many others, such as some games, utility apps, and more. You are probably unaware of all the apps that come with Windows that have already been installed. If you want an app you do not have, like a game, Microsoft Word, or Firefox, you must DOWNLOAD and INSTALL it on your device. You are downloading and installing an EXECUTABLE computer file; that is, it can "run" on your device. This file type has a name that ends with ".exe," meaning "executable."

You are probably already aware of a "file" on your Windows computer. A file can be a text document, a photo, or a spreadsheet. If you wanted to create or write a new app from scratch, you would write the app using computer language and write it in a file, too. But what you are doing by writing an app is you are giving commands or instructions for the computer to follow. Suppose you were writing a game app to play tic-tac-toe on your computer; you would have to write instructions for the computer to recognize where each X or O is on the grid and where to place the next move. So this app is written as a file just like any other file except the name of this kind of file ends with ".exe." If you have downloaded (that is, copied a file from somewhere else, like a website, for example), you probably have noticed that the name of the file you downloaded ends with ".exe." In Windows, one way to run such a file is to click your mouse on the file name – your computer sees it as an executable file and runs it.

It is the same if you double-click an app icon on your desktop; you tell the computer to run that app. Maybe you get notices that there is an update to an app you already have. If you download the update, it is an executable file (an ".exe" file) that you click on to run the update.

Exe files are not for you to open and look at or change. They are in computer or "machine" language that you would not be able to understand. But they ARE just files stored on your computer in a program or apps folder. To remove an app from your device, you must UNINSTALL it using a Windows or other utility app to do that. Please do NOT attempt to find the executable file yourself and delete it.

If you want to learn more about executable files or apps, ask Google and watch a short video or two about it. But most of us want the app to run so we can use our device how we want.

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Due to the layout, sometimes there are large white spaces in **Posts** that need something to fill the space. For a long time, I've put my images in them. But perhaps you have some to share? I hope so. If you do, send them to editor@patacs.org in JPG format at 300 DPI, and include your camera, lens and exposure data (if you have it).

This one is from Antietam Battlefield and is of the split-rail fence along Bloody Lane. ISO R5, 1/1600s, f/4, ISO 100, 105mm, RF 24-105 f/4L IS USM.

©Henry S. Winokur

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PATACS Information

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First Class

Meeting schedule (Zoom=Online Only, Hybrid=Online/In-person)

1st Wednesday	7:00 – 9 PM	Arlington General Meeting	Hybrid
3rd Monday	7:00 – 9 PM	Board of Directors Meeting	Zoom
3rd Saturday	12:45 – 3:30 PM	Fairfax General Meeting	Hybrid
4th Wednesday	7:00 – 9 PM	Technology & PC Help Desk (in Arlington)	Hybrid

Arlington Mtg: 5711 S. 4th ST., Arl. VA   Fairfax Mtg: 4210 Roberts RD., Fairfax, VA

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