

Artificial Intelligence (AI) Hot Summer Nights

Intro – Phone Scammers Using Artificial Intelligence

- Today, CBSNews reported – “Phone scams are nothing new, but thanks to artificial intelligence, they are getting **more sophisticated and believable**.”
- Jennifer Destefano will never forget the frantic call supposedly from her 15-year-old daughter, Brianna – “*Mom, these bad men have me, Help me, help me, help me!*”
- A man’s voice insisted, “*Listen here, I have your daughter.*” And then that’s when Ms. Destefano said she went into panic mode. The man on the other end of the phone **demanded \$1 million**.
- “*I said that wasn’t possible, so then he came up with \$50,000,*” Destefano said. She never paid the money, and soon learned that **the call was a popular AI scam**, where people use new software to recreate the voices of loved ones in distress.
- Americans **lost nearly \$9 billion** to fraud last year alone, up more than 150% in just two years, according to the Federal Trade Commission. AI is certainly **playing a larger role** in fraud.
- Cyber security expert Pete Nicoletti said, “We live in a post-real society. You can’t trust the voice you hear. You can’t trust the photo you see, and you can’t trust the video you watch anymore.”
- AI is creating some significant **moral and ethical challenges** that must be addressed.

1. What is AI?

- Artificial intelligence (AI) is defined as **intelligence demonstrated by computers**, as opposed to human or animal intelligence. “Intelligence” encompasses the ability to **learn** and to **reason**, to **generalize**, and to **infer meaning**.
- **AI applications** include:
 - Advanced web search engines (e.g., Google Search)
 - Recommendation systems (used by YouTube, Amazon, Netflix, & social media)
 - Understanding human speech (such as Siri and Alexa)
 - Self-driving cars (e.g., Waymo)
 - Generative or creative tools (ChatGPT)
 - Automated decision-making, and competing at the highest level in strategic game systems (such as chess and Go)
- Artificial intelligence was founded as an academic discipline **in 1956**, and in the years since it has experienced several waves of optimism.
- The initial optimism accompanying AI was followed by disappointment and the loss of **funding** (known as an “AI winter”), followed by new approaches, success, and currently **renewed funding**.

2. What are the current trends in AI?

- Artificial Intelligence (AI) has **boomed** over the last decade. The options seem limitless, the potential is huge, the gains are substantial, and therefore the current investments are **enormous**.

- Gartner estimates that the market value of AI in this year will become **2.8 trillion** (2.800.000.000) euros. In other words, **a lot of people stand to make a lot of money in AI.**
- The AI competition is fierce, since AI development is still quite **expensive** and the stakes are high. Applied AI is working its way up to becoming a major part of modern-day life.
- Companies like Amazon, Apple, Facebook, Google, IBM, Intel, LinkedIn, Microsoft, NASA, Netflix, Tesla, and Uber are all utilizing AI to become **market leaders** in their fields.
- Essentially, AI is the science of training machines to **imitate or reproduce human tasks.** Companies salivate over the thought of replacing a human with a machine – **saving millions** in payroll, benefits, human resources, etc.
- In the first decades of the 21st century, highly **mathematical and statistical machine learning** has dominated the field, and this technique has proved highly successful, helping to solve many challenging problems throughout industry and academia.
- But, computer scientists and philosophers have warned that AI may become **an existential risk** to humanity if its **rational capacities** are not steered towards goals beneficial to humankind.
- Economists have frequently highlighted the risks of redundancies (duplication of human tasks) from AI, and warned about **unemployment** if there is no adequate social policy for full employment.

3. Are there different types of AI?

- There are three main types of AI:
 - **Narrow / weak AI:** a machine can perform a specific task in a pre-determined and pre-defined range better than a human. (ex. – a machine drilling holes in a wheel)
 - **General / strong AI:** a machine can perform any intellectual task (without specific instructions) with the same accuracy level as a human would. The machine should be able to solve problems, make conclusions under uncertainty, plan, learn and use knowledge in decision-making (ex. – a sophisticated robot)
 - **Artificial superintelligence:** a machine can beat humans in all aspects of a task, from creativity, to general wisdom, to problem-solving (ex. – a super-computer that operates apart from human interaction)
- At this point, It is safe to say that “advanced narrow AI” is **the current state of the AI development**, but the goal for coming years is to master general AI, where the focus lies on the increasing **the capability of self-learning.**
- The concerns about Artificial superintelligence are obvious, since this could mean that super-intelligent machines take over the world by eliminating humankind (the stuff of movies).
- The more optimistic theory is that AI and humans will **coexist** hand in hand, **optimizing** the human experience rather than **eradicating** it.

4. What's the upside of AI?

- Those who champion the creation and use of AI would say that the benefits include:
 - **Access:** AI robots can be located in places that are not safe for humans (from laboratories to mines, from deep ocean caves to other planets).
 - **Accuracy and precision:** difficult decisions can be made based on data-driven arguments and are not limited by a lack of human attention, fear, distraction, and emotional responses.
 - **Recurring manual task:** AI can take over low-level repetitive tasks, enabling workers to do more strategic, high value work.
 - **Convenience:** AI makes things easier to do. Limited effort, high reward. AI makes the world more comfortable.
 - **Medical advances:** Machines can even be trained to perform high-level procedures that are difficult for doctors.

5. What's the downside of AI?

- Those who caution us about the dangers of AI would say the downsides include:
 - **Lack of transparency:** AI is allowed to make decisions based on a self-learning algorithm that's hard to understand and challenging, especially if experts leave the company.
 - **Cheating:** AI writing papers, essays, etc.

- **Ethics:** If biased people train the AI machine, the system will be polluted with discriminated data and therefore the result will be biased (garbage in, garbage out). AI machines might also reach conclusions that humans never intended.
- **Liability:** it has become harder pointing at the responsible party of a failed AI machine. Can you prosecute and punish a machine? In the end, the machine sets its own course.
- **Privacy issues:** trade-off between privacy guarantee and more data (which lead to better results). An invasion of privacy is inevitable. Think Orwell's 1984!
- **Loss of employment:** As machines replace humans, its clear that more and more people will lose their jobs, creating more financial, mental, and societal problems that machines can't fix.

6. What are the biblical implications of AI?

- On one hand, **we rejoice** over the benefits of amazing technology, such as those involved in AI. Knowing that we're **fearfully & wonderfully** made (Psalm 139:14), we rejoice that God has permitted us to **attain** such a high level of understanding.
- God is **the Giver of every good and perfect gift** (James 1:17), so we believe that AI is a gift that is to be used for the glory of God and the welfare of the human race.

- And yet, we realize that our adversary the Devil is **a master deceiver** (John 8:44). He's been lying to humans since the days of Adam & Eve (Gen. 3). He loves to **pervert the goodness of God's creative work**.
- It's no surprise then that Satan would take AI and use it to **harm, harass, & destroy** human beings – after all, Jesus was very clear that the thief has come to steal, kill, and **destroy** (John 10:10).
- We see that authoritarian regimes – such as China – are already using AI to **monitor their citizens and track their movements, spending, etc.** It's easy to see how Antichrist could use AI technology to bring in the Devil's last-days agenda (cf. Mark of the Beast – Revelation 16).
- AI is helping the world to grow smaller and smaller – just the kind of globalization and empire consolidation we read about in the Revelation.
- So how should we respond as followers of Christ?
 - **Encourage** the responsible production, development, & use of AI technology
 - Help AI developers and users to create technologies that are **ethical** – those that work to enhance and protect human life
 - **Speak against** the unethical use of AI technology, such as that depicted in Orwell's 1984 and already present in authoritarian countries
 - **Guard against** the temptation to entrust to machines what God designed us to do – work, fellowship, minister, etc.