

# AI Overview – Should I Worry?

## Slide 1 – Welcome

- Latest in a continuing series of technical presentations by the Electronics Club in topics that we believe to be of interest to the VO community
- Next week, there will be a presentation on how to use AI's effectively.

## Slide 2 – AI Overview – Should I Worry?

- If you've turned on the news lately, you've probably heard the letters "A-I" every five minutes.
- Often presented as either a miracle or nightmare.
- Today – strip away the jargon.
- We'll look at what AI actually is and why it's suddenly everywhere.
- Most importantly, we'll talk about whether you should be worried or excited about AI
- We will cover:
  - What is AI (Artificial Intelligence)
  - Brief history of Artificial Intelligence
  - Types of AI
  - Current state of AI
  - How AI can be useful
  - What you need to be concerned about AI
- My Goal: At the end of 45 minutes, you will feel more in control of AI technology.
- There will be time for Q&A at the end.

## Slide 3 – Quick History of Artificial Intelligence

- AI is our attempt to create machines to "think"
- It's been developing slowly since modern computers existed

#### Slide 4 – 1950s–1970s: Early Ideas

- Computers ran programs and programs had limited goals
- But scientists wondered if computers could ever think
- Sci-Fi books were written around thinking robots
- 1970 - Eliza – A very early Chatbot

#### Slide 5 – 1980s-2000s: Smarter Computers

- Computers became faster, more capable and smaller
- How quickly computers developed is represented by the graph on the right.
  - In early 70's, Gordon Moore, the founder of Intel – came up with Moore's law
  - # of transistors in a computer would double every 2 years
  - Roughly true for the last 50 years
- Example if applied to a 1971 VW Beetle, evolving at this pace. Today, we'd have a car capable of:
  - 300,000 miles per hour and the horsepower of a large jet
  - Fuel efficiency so high, you could drive entire life on a single tank of gas
  - The cost of the car would be only 3-5 cents
- AI development thru the decades
  - 1980 - Rules based Expert systems & Early voice recognition
  - 1990 - Deep Blue – chess program
  - 2000 – Honda's Asimo robot

#### Slide 6 – 2010s-Today: AI in Everyday Life

- Computers continued to improve
- AI development the last 15 years
  - 2010 - Neural Networks, IBM Watson, Natural language, Siri & Alexa
  - 2020 – Real time language translation, Large Language Models, Chatbots and Generative AI

## Slide 7 – What is AI? (Plain English)

- Don't think of AI as a "robot brain" like in the movies
- Think of it as a super-librarian. A librarian that has read every book, newspaper, and manual ever written
- If you ask them a question, they don't "think".
- They just find the patterns in everything they've read to give you an answer.
- AI is simply software that recognizes patterns.
- It's a tool, like a calculator, but instead of doing math, it works with words, pictures and sounds.

## Slide 8 – Types of AI

- Narrow or Weak AI
  - Siri and Alexa
  - Facial Recognition
- Augmented AI
  - Generative AI
    - Chatbots (Gemini, Co-Pilot, ChatGPT)
    - Image generation (Nano Banana, Canva, DALL-E)
- Generalized AI
  - Computers we see in movies
  - Self-aware

## Slide 9 – Generative AI

- Current state of AI tools
- Huge step up from Search
- Google Search found existing content
- From a description, Generative AI "Generates" content, images, code that didn't exist before

## Slide 10 – Why is Generative AI a “Big Deal”?

- So why the buzz now?
- Because AI learned how to **TALK BACK**
- Before, AI just sorted things
- Now, Generative AI, like ChatGPT can create new things
- It can write a poem in the style of Robert Frost
- It can plan a 7-day low-sodium meal plan
- It can explain a complex insurance letter
- It’s the difference between looking at a map vs having a co-pilot who talks to you

## Slide 11 – What AI is **NOT**

- AI is still a tool
- Chatbots are:
  - NOT alive
  - NEITHER a friend nor an enemy
  - DO NOT really understand your emotional state

## Slide 12 – You Already Use AI

- Truth is, AI isn’t brand new. You’ve likely been using it for a decade. Examples are:
  - Email: How does your computer know a “Nigerian Prince” email is junk? That’s AI
  - GPS: How does your phone know there’s a traffic jam 2 miles ahead? That’s AI
  - Credit Cards: When your bank calls to ask if you *really* just spent \$500 in another state, that’s AI.

### Slide 13 – The Good Stuff, How AI Can Help You

- How can this actually help you?
- Health: AI can now scan your skin for spots that might be cancerous or monitor your heart for irregularities better than the human eye
- Hearing: New hearing aids use AI to ‘cancel out’ background noise in a crowded room so you can hear the person next to you

### Slide 14 – The Good Stuff, How AI Can Help You - Part 2

- Personal Creativity & Legacy
  - You can use AI to help write your memoirs
    - Tell an AI: I want to write about my childhood in Chicago in 1955” and it can help prompt your memory with historical details
  - You can use AI to preserve and restore memories
    - There are tools now that can take a torn, blurry photo of your grandparents and make it look like it was taken yesterday

### Slide 15 – Using a Chatbot AI

- Be specific about topic or issue
- Ask open ended question
- Avoid complex sentence structures
- Ex: What is a short list of the best XMAS gifts for an 11 year old boy who likes sports

### Slide 16 - Personal Example of Creativity

- Trip of a lifetime
  - Slow boat - Seattle to Sydney w/ stops in Hawaii, Fiji and Samoa
  - 2 weeks in Australia – Sydney, Outback
  - 2 weeks in New Zealand – Scenery
- Giant Wood trolls
- Buggy thru mud
- 2025 XMAS letter. Wondered if AI could convert it to a XMAS song

## Slide 17 – Should I Worry About AI – Part 1, The “Hype”

- Let’s talk about the “Worry” part
- Will robots take over?
  - No. AI doesn’t have a soul, feelings, or a “will”. It only does what we tell it.
- Is it always right?
  - No. THIS IS IMPORTANT. AI can “hallucinate”. Because it’s a pattern finder, sometimes it makes up facts that sound true.
    - ALWAYS, double-check the answers an AI gives you
- AI’s hallucinate and make things up. Better AI’s hallucinate 35% or the time. Bad AI’s hallucinate up to 75%
- The environmental cost
  - By 2030, estimate data centers will consume 15% of total electricity.

## Slide 18 – Should I Worry – Part 2, Scams & Safety

- This is the part where you **should** be cautious
- Bad people use AI to better scam you
  - Voice cloning: They can take a tiny snippet of audio and make a computer sound like your family member
  - Urgency is a Red Flag: If **anyone** tells you that you must act immediately or pay in gift cards or crypto currency – IT’S A SCAM. Legitimate institutions and authorities DO NOT NEED gift cards or crypto currency
- Your data and interactions with cloud based AI’s is NOT private

## Slide 19 – Staying Safe with AI

- Pause before responding – Before you react to a scary email or call, take 30 seconds to breathe
- Verify – Call a trusted friend or family member before sending money
- Don’t Overshare – Treat an AI like a stranger at a bus stop. Don’t tell it your Social Security number or Bank passwords
- Stay Curious

## Slide 20 – The Big Picture

- In the end, AI is just a tool – like a hammer.
- A hammer can help you build a house, or it can hurt your thumb if you aren't careful.
- You don't need to be a computer scientist to live in this world; you just need to be a careful, savvy consumer.
- Stay curious, but stay skeptical of things that are “too good to be true” or “so bad, you need to act immediately”.
- Don't be afraid to ask for help from your community.

## Slide 21 – Q&A