Introduction to:
Artificial Intelligence in Healthcare

Thomas Hallisey, Director, Health Information Technology, HANYS
AI: Scary robot overlords, Marvin or just a new Tool?

- More than 70% of U.S. fears robots taking over our lives*

Source: Pew Research
Artificial intelligence zeitgeist

- Robot artist exhibition
- AI designing dresses
- Radiology diagnostics
- Voice assistants
- Chatbots
AI: Definition

- *Artificial intelligence (AI)* is a collection of computational techniques that aim to simulate human behavior and decision-making. AI is the broad category under which specific techniques fall, including machine learning, natural language processing, deep learning and others. AI is also referred to as *cognitive computing.*
AI: Definition

Layperson Definition:
• Exhibit intelligence
• Perceive environment
• Take actions/make decisions

Two Types Today:
• Narrow AI – specific tasks
  – Nearly all current work
• General AI – Watson
AI: Definition

- Machine learning
- Deep learning – neural network
- Natural Language processing
- Difference between ML and statistics
AI: What is it good for?

- Finding patterns
- Natural language processing
AI: Why now?

• Computing power
• Amount of data collected will explode
  – IoT (IoMT)
  – 5G
• Connectivity
Healthcare uses

• Clinical decision support
• Diagnosis assistance – image analysis
• Virtual care – remote monitoring
• Revenue cycle optimization
• Assisted robotic surgery
• Voice assistants
AI changing healthcare operations
AI: Practical matters

- Data – It’s all about the data
  - Consistent and reliable
  - Data governance
- Specific use cases with measurable goals
- Bias
Thank you.