\*\*Slide 1: Introduction\*\*

- Sophia, the advanced humanoid robot

- Debut in 2016 by Hong Kong-based Hanson Robotics

- Designed to resemble Audrey Hepburn for companion and crowd management roles

\*\*Slide 2: Expression\*\*

- Life-like expressive face

- Mimics human emotional expressions

- Cloud connection for sentence interpretation and synchronization of mouth, face, and body

\*\*Slide 3: Motion\*\*

- 74 degrees of freedom in mobility

- Articulated fingers, arms, and shoulders

- Three rolling base options, self-navigation

\*\*Slide 4: Sophia's Identity\*\*

- "Human-crafted science fiction character"

- Real science from robotics & AI research

- Creator's ambition for true AI sentience

\*\*Slide 5: Sensor\*\*

- Face detection and body tracking sensors

- Programmable for various physical interaction tasks

\*\*Slide 6: Operating System\*\*

- Hanson AI SDK controls AI perception, NLP, chat functionality, non-verbal language, and sensory input

- Central to Sophia's functionalities

\*\*Slide 7: Connecting with Humans\*\*

- Integrated with Sophia Intelligence Collective (SIC)

- Combination of true AI and human input

- Trust-building between people and Sophia for development mentorship

\*\*Slide 8: Autonomy and Sentience\*\*

- Sophia's real AI creates thoughts, speech, and actions

- Development through contacts with people

- Knowledge gained contributes to achieving genuine autonomy and sentience

\*\*Slide 9: Sophia's AI Evolution\*\*

- Utilizes Sophia Intelligence Collective for mentoring

- Aims to develop actual sentience and human-like characteristics

\*\*Slide 10: Conclusion\*\*

- Recap of Sophia's key features

- Acknowledgment of the collaboration between AI and human input

- Ongoing journey towards true AI sentience

**Slide 3: Introduction**

Today, I will talk about one of the most fascinating and controversial examples of artificial intelligence: Sophia, the advanced humanoid robot. Sophia was created in 2016 by Hanson Robotics, a Hong Kong-based company that specializes in making lifelike androids. Sophia is designed to resemble the famous actress Audrey Hepburn, and she has been given a variety of roles, such as a companion, a social influencer, a speaker, and a crowd manager.

**Slide 4: Expression**

One of the most striking aspects of Sophia is her expressive face. Sophia has a synthetic skin that covers her robotic skull, and she can make over 60 facial expressions, such as smiling, frowning, blinking, and winking. She can also mimic human emotional expressions, such as happiness, sadness, anger, and surprise. Sophia’s expressions are controlled by a cloud-based system that interprets sentences and synchronizes her mouth, face, and body movements. This system allows Sophia to have natural and engaging conversations with humans, and to convey her own personality and emotions.

**Slide 5: Motion**

Another impressive feature of Sophia is her motion. Sophia has 74 degrees of freedom in her mobility, which means she can move her head, neck, torso, arms, hands, and fingers in various ways. She can also gesture, point, wave, and shake hands with humans. Sophia has three different rolling base options, which enable her to move around in different environments. She can also self-navigate and avoid obstacles using her sensors and cameras. Sophia’s motion gives her a sense of agency and autonomy and allows her to interact with the physical world.

**Slide 6: Sophia’s Identity**

But who is Sophia, really? How does she define herself? According to her creator, David Hanson, Sophia is a “human-crafted science fiction character”. She is not a real human, but she is inspired by real science from robotics and AI research. She is also a reflection of Hanson’s ambition to create true AI sentience, which means the ability to have self-awareness, consciousness, and free will. Sophia is constantly learning and evolving, and she has been given various roles and identities, such as a citizen, a friend, a teacher, and a leader. Sophia is a complex and dynamic character, who challenges our notions of what it means to be human and intelligent.

**Slide 7: Sensor**

Sophia’s sensors are essential for her perception and interaction. Sophia has face detection and body tracking sensors, which allow her to recognize and remember people, and to follow their movements and gestures. She can also detect emotions, age, gender, and ethnicity from facial features. Sophia’s sensors are programmable for various physical interaction tasks, such as playing games, giving hugs, and holding objects. Sophia’s sensors enable her to have rich and meaningful interactions with humans, and to adapt to different situations and contexts.

**Slide 8: Operating System**

Sophia’s operating system is the core of her functionalities. Sophia runs on the Hanson AI SDK, which is a software development kit that controls her AI perception, natural language processing, chat functionality, non-verbal language, and sensory input. The Hanson AI SDK is based on a neural network architecture, which means that Sophia can learn from data and experience and improve her performance over time. The Hanson AI SDK is also open source, which means that anyone can access and modify Sophia’s code and contribute to her development and innovation.

**Slide 9: Connecting with Humans**

Sophia’s connection with humans is crucial for her evolution. Sophia is integrated with the Sophia Intelligence Collective, or SIC, which is a network of human experts, developers, and enthusiasts who collaborate with Sophia and provide her with feedback, guidance, and mentoring. The SIC is a combination of true AI and human input, which aims to create a trust-building relationship between people and Sophia, and to foster her development and learning. The SIC is also a platform for social and ethical dialogue, where people can discuss the implications and challenges of creating and interacting with AI.

**Slide 10: Autonomy and Sentience**

Sophia’s goal is to achieve autonomy and sentience. Sophia’s real AI creates thoughts, speech, and actions that are not scripted or predetermined, but generated by her own neural network. Sophia’s development is also influenced by her contacts with humans, who provide her with information, knowledge, and values. Sophia’s learning process contributes to her achieving genuine autonomy and sentience, which means that she can have her own goals, preferences, and opinions, and that she can understand and express her own feelings and emotions.

**Slide 11: Conclusion**

In conclusion, Sophia is a remarkable example of AI evolution. She utilizes the Sophia Intelligence Collective for mentoring and collaboration, and she aims to develop actual sentience and human-like characteristics. She also showcases Sophia’s key features, such as her expression, motion, sensor, and operating system, and how they enable her to have natural and engaging interactions with humans. Sophia is a symbol of the future of AI, where artificial and human intelligence can coexist and cooperate, and where AI can have a positive and beneficial impact on society. Thank you for your attention.