DOC EDGE SCHOOLS

More Human Than Human
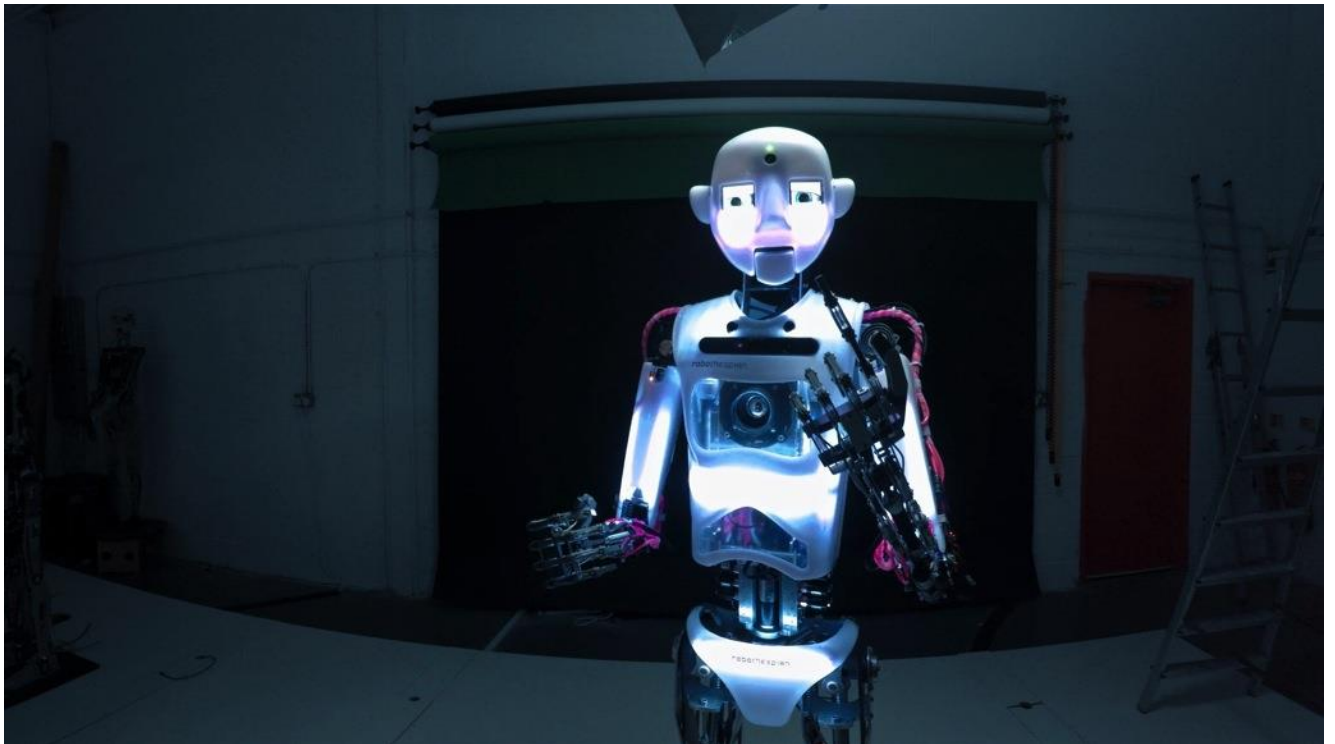
More Human Than Human

Directed by: Femke Wolting, Tommy Pallotta
Countries: Belgium, Netherlands, United States
Duration: 1:19: 0
Suggested age: Years 7-13

Suggested Curriculum Links:
Level 4 - 8

Subject Areas:
English, Technology, Digital Technologies,
Philosophy, Social Studies, Media Studies

Subject	NCEA Achievement Standards
Media Studies	Levels 1,2, 3
English	Levels 1,2, 3
Social Studies	Levels 1,2, 3
Art History	Levels 1,2, 3
Design and Visual Communication	Levels 1,2, 3

Teacher and Student Guide:

This pack has been designed to help teachers and students enrich their experience of viewing *More Human Than Human* by providing support in the form of questions and activities around key ideas and themes. There are a range of questions that will frame important discussions and activities for before and after viewing the film. Some of the web links will also provide starting points for further research or discussion. These are by no means definitive. While we identify appropriate subjects and achievement levels we do not presume to write activities or assignments for assessment against the standards. Our aim is to enable a better understanding of key principles and ideas through discussion and learning.

The Film:

More Human Than Human explores what it means to live in the age of intelligent machines. In this personal, playful and at times dramatic quest, the filmmaker finds our how much of his creativity and human values are at stake as he builds his own robot to replace himself as a filmmaker. More than just an expose on the pros and cons of new technology, the filmmaker's journey takes him to the world's leading AI experts and robot pioneers, confronting them with existential question such as: will AI, infinitely smarter, interconnected and possibly self – aware, render humanity obsolete?

View the Trailer: http://docedge.nz/film/schools-more-human-than-human-2/

Pre-viewing Activities:

Discuss as a class, in pairs or in groups and report back.

1. Discuss and explore what it means to be human. What separates us from animals or machines?

2. Discuss some of the futuristic / Sci- Fi films you have seen, or books you have read. To what extent do you think they represent the future of the world?

3. What do we know about artificial intelligence (AI)? What exactly is it, and how are we already using it in our daily lives?

4. View the trailer for *More Human than Human* to identify the key story points.

5. Find out what is meant by artificial general intelligence (AGI). Discuss and explore the idea that machines may achieve artificial general intelligence. How might that impact on us as humans?

A clear explanation of AI you may find useful https://www.youtube.com/watch?v=2ePf9rue1Ao

Viewing Activities:

- Take notes on the key ideas in the film and any words or concepts you don't understand

Post-viewing:

Thematic Discussion Prompts:

1. How did the film leave you feeling about Artificial Intelligence?
2. What issues did the film raise around both AI and AGI? How critical are they?
3. Why does the film suggest we should be worried about Google? What do you think?
4. From watching the film do you think that AGI is achievable? Why? Why Not?

Media, Film Studies Prompts:

1. How effective is the film in answering the key story questions?
2. The filmmaker sets out to see if a robot can be given creative thought. How effective was this as a vehicle for structuring the narrative? Consider his interview with the robot.
3. Were there any questions the filmmaker left unanswered or ideas that were unexplored?
4. If you were making a follow up film, what would be the key story questions underpinning your narrative?

Suggested Activities for years 7 – 8

Interchangeable or modifiable with advanced activities

1. Discuss and explore the ways in which AI is being used in our daily lives. What machines and systems use artificial intelligence e.g. *in the home, in sports, at shops, in factories etc.* Create a mind map to show its many uses and explain how it is changing the way we live.

2. Design a poster or create a simple video or audio-visual display comparing and contrasting the difference between an AI machine and the traditional method– e.g. sewing machine, cake mixer, leaf cleaner etc. Use the visual and aural language of advertising.

3. Discuss what it means to be human in more depth. What are our strengths and weaknesses? What do we need to survive and operate effectively as a species? Why is human connection important to us? Write your own definition and description of what it means to be human.

4. Discuss what it might mean to be More Human than Human? What characteristics might an AGI robot have? In what ways might humans be a threat to it? How might it 'destroy' us without using weapons? What are the weaknesses of AI and particularly AI robots?

5. If AGI machines are given '*super compassion and super wisdom'* how might they create a better world for us? What will we need as humans to survive in their world? Consider physical, mental and emotional needs. Discuss, prioritise and explain your decisions.

Suggested Wider Discussion and Activities
English, Technology, Digital Technologies, Social Studies, Media Studies

1. Discuss and explore the ideas presented in the film. How successful is the director in drawing attention to the possibility of both AI and AGI and the issues surrounding them. What codes and conventions does he use to focus our attention? Review critically.

2. Examine and evaluate the impact of AI in your own life. What AI driven machines and systems do you use and how often do you use them? How do they influence and impact on your life and on the way in which you interact. What are the negatives and positives?

3. Discuss and explore creatively. What might your future look like if robots took control of the world? How might you look? What might you be doing? What might you become? How would you feel about a word dominated or controlled by superior machine intelligence?

4. The documentary raises ethical issues. Identify, discuss and explore the ethics that scientists and technologists should consider when trying to create AGI. What are the dangers if we succeed? Recommend policies or way to protect our world and ourselves.

5. Discuss and list the many ways robots could be used to perform simple daily tasks. Using the knowledge and tools available to you at your level of learning, design and a robot to perform a selected task. Critically evaluate the success of your design.

6. Discuss the nature of humans from your own life experience and understanding of the world. *"Do we want robots that are identical to human beings or should we remove all those undesirable features?"* Consider the ramifications on both sides. Discuss and debate.

7. *"If you want to see a super scary, super advanced AI it's a white page and it says GOOGLE at the top."* Investigate the power of Google. What drives it and how does it control, manipulate and influence our worldview and response to issues and events? Draw on specific examples.

8. This link takes you to films about artificial intelligence. View, contrast and compare the representation of AI in two or more of the films with reference to the codes and conventions used and their overall effectiveness. https://www.aivoke.com/news/exciting-films-about-intelligence/

9. Investigate the use of AI in the military e.g. missiles and drones. What impact are the use of robots having in changing military spending and strategy, and how might they change it further if AGI is successful? Assess and evaluate from an ethical and humanitarian point of view. A useful place to start is with Big Dog. https://www.bostondynamics.com/bigdog.

10 Discuss and explore ways in which we can plan for a future where AI may dominate our world. What should we be doing to prepare? What questions would you ask an artificially intelligent robot?

Website and Online Resources
Some links you will need to copy and paste into your browser

Movie website
https://morehumanthanhuman.ai/
Internet society definition of AI and policy on its use
https://www.internetsociety.org/resources/doc/2017/artificial-intelligence-and-machine-learning-policy-paper/?gclid=Cj

Interview with Sophia the robot from the film

https://www.youtube.com/watch?v=78-1Mlkxyql

Sophia's Facebook page

https://www.facebook.com/realsophiarobot/

Hanson Robotics Facebook website

https://www.hansonrobotics.com/sophia/

Boston Dynamics Website

https://www.bostondynamics.com/

Article on Sophia

https://edition.cnn.com/style/article/sophia-robot-artificial-intelligence-smart-creativity/index.html

Very good description of artificial intelligence and how it works

https://www.youtube.com/watch?v=2ePf9rue1Ao

https://www.youtube.com/watch?v=4jmsHaJ7xEA

https://www.sas.com/en_us/insights/analytics/what-is-artificial-intelligence.html

Ted talks on artificial intelligence

https://www.youtube.com/watch?v=SN2BZswEWUA

A very frightening but real talk on the potential of AI to destroy us from a US weapons expert

https://www.youtube.com/watch?v=BrNs0M77Pd4

Audio Interview on AI with Jay Tuck US defense expert

https://www.visionunitedworld.org/interview-jay-tuck-opportunities-threats-artificial-intelligence/

What it is and why it matters

https://www.sas.com/en_nz/insights/analytics/what-is-artificial-intelligence.html

https://ai.google/

https://www.gettingsmart.com/2018/12/what-k-12-students-should-know-about-artificial-intelligence/

Benefits and risks of AI – Very good articles

https://futureoflife.org/background/benefits-risks-of-artificial-intelligence/?cn-reloaded=

https://www.forbes.com/sites/forbestechcouncil/2018/06/19/is-artificial-intelligence-a-detriment-or-a-benefit-to-society

https://content.wisestep.com/advantages-disadvantages-artificial-intelligence/'

https://www.chathamhouse.org/expert/comment/combining-ai-s-power-self-centered-human-nature-could-be-dangerous

Film reviews

http://povmagazine.com/articles/view/review-more-human-than-human

https://www.theverge.com/2018/3/14/17121052/more-human-than-human-documentary-movie-review-artificial-intellig

Sites with links to apps and codes for building robots in the classroom – There are lots.

https://www.commonsense.org/education/top-picks/best-robotics-apps-and-websites-for-stem-classrooms

https://meetedison.com/robotics-lesson-plans/10-robotics-lesson-plans/

Quotes from the Film:

- TOMMY: Filmmaker: Are we on the verge of witnessing the birth of a new species?

- WILL: Roboticist: It's right back to that fundamental question. What does it mean to be human?

- WILL: The real challenge here is can it have a personality of its own? Can it have pure autonomy?   Can it be creative?

- WILL: You're not invisible in front of the machine. The machine is looking right back at you.

- JONOTHAN: Roboticist: Do we want robots to show bad behavior? Do we want robots that are identical to human beings? So, let's make another machine that is without these undesirable human features.

- DANIEL Roboticist: We've reached a point where they, (tools) have got brains, they've got eyes, and they're making decisions. That's pretty terrifying.

- DANIEL: If you want to see a super scary, super advanced AI it's a white page and it says GOOGLE at the top.

- GEORGE: What if the cool, new, mind control machine doesn't want us thinking bad things about the cool, new, mind control machine? How can we fight a source of intelligence that can teach us every day that it's awesome and that it exists purely for our own good?

- HOD: Roboticist: if we can create machines that can create other machines, we're done.

- HOD: What we've really been building is a nest for artificial intelligence. We have no way of knowing what it will do with all of that power and knowledge. It might decide that we are a threat – and we are – and then there is no way we can stop it from destroying us.

- GEORGE; it's really important that the machines have super compassion and super wisdom and they know how to use that vision and intelligence to create a better world for us.

The Filmmaker:

Tommy Pallotta

Tommy Pallotta received a degree in Philosophy from the University of Texas at Austin. While at UT he met Richard Linklater and began his film career as an actor and production assistant on Linklater's directorial debut, Slacker (1991). After working on numerous films and commercials, Pallotta wrote, directed and produced his first film, The High Road (1997). He also produced several of Bob Sabiston's animated projects including: Roadhead (1999), which received the Best Animation award at the Aspen Film Festival; a series of interstitials for MTV; Snack and Drink (1999), a three-minute short about an autistic child in a 7-Eleven store, which is now part of the permanent collection of the New York Museum of Modern Art; and Figures of Speech (2000), a series of interstitials for PBS. He then connected his animation experience with Richard Linklater in Waking Life (2001), the first independently financed and produced computer animated feature. Pallotta also directed the first machinima produced music video, In the Waiting Line (2003), using the animation engine from the Quake 3 video game, and the rotoscoped MTV "Breakthrough Video" Destiny (2002), both for the band Zero 7. The Microsoft Research and Development team recognized Pallotta for his "penchant for innovation" where he helmed an interactive project based on Jonathan Lethem's novel Amnesia Moon (2004), which was an experiment that was not released to the public. He then returned to the film industry with his frequent collaborator, Richard Linklater, to produce A Scanner Darkly (2006) based on the novel of the same name by Philip K. Dick and starring Keanu Reeves.

Images from the Film

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