Sources for (ART)ificial Intelligence project

Physical articles and books:

- **Pervasion of what? Techno-human ecologies and their ubiquitous spirits – Mark Coeckelbergh**: This article is a lot about what makes us human, and what human aspects we need to protect from technological developments. It also questions the human limits described as "The human Hybris" referring to the in Greek mythology begun story of Icarus. It basically states that all progression has a limit and that we cannot strive to keep growing for ever. Linked to current philosophies and economical systems as circular economy and degrowth, this is a very interesting article. It also discusses what alienation from the self would look like with statements like: "Alienation is the conceptualized as the invasion of the subject by the object – the colonization of the lifeworld by the system." and "We must deny that our world is a place of alienation and open up to different ways of experiencing the world. If we do so, we may replenish the world with meaning and value, or rather, from this perspective we may come to experience it as always having been full of meaning and value." After that it goes on to tackle the fears that we have for the loss of control that is implied by making us dependant on technology we don't understand. (Which only seems to be a problem when we don't benefit from it personally.) "We shouldn't fear that technology 'takes over', we should fear loss of connection caused by our position towards technology and how to use it." (This resonates with Peters (Missotten) notion that trying to prevent technological innovation is like trying to stop evolution: a useless attempt that will only result in you being excluded. In the end of the article, it concludes that we should only fear robots if they are produced "in imago humani" -> in a way that it resembles current human relations and lifestyles, since that will only enlarge inequality and other problems we are dealing with in modern society. My conclusion from reading this article was that control might be the opposite of human connection.
- **Critical questions for big data from Information, Communication & Society – Danah Boyd and Kate Crawford:** This article discusses many interesting statements; As machines changed the definition and value of physical labour, big data changes the definition and value of knowledge, and interrogates the importance of social science in the human sense of the field (it shouldn't strive to become a quantitative science.) Big data also challenges the way we engage with information. Quantitative data is not enough to study human behaviour. The objective data is just as important for the interpretation of social scientific research. It shouldn't even be a competition. We need human interpretation to contextualize results and translate it into practical behavioural outcomes. Another thing it discusses is consent of use of data. In big data there is this phenomenon called "informed consent" meaning that if you inform the users that their data is being used, that is enough of a consent. Now obviously that has nothing to do with actual consent, and this should change.
- **The Lonely century – Noreena Hertz**: This book is about the influence of (mainly) social media on the way we interact with each other. For example, the decrease in empathy skills in young generations who are growing up with social media and use that as main source of communication. It also speaks about new jobs that find their origin in modern problems. For example: our efficiency-based modern society is making people feel lonelier. One of the new jobs that arose is paid (non-sexual) company. Basically, you pay someone to be your friend for a few hours. These questions the value of friendship. When is it real? When is it meaningful?

- Lost connections – Johan Harry: This book is about what depression is, why there is a rise in depression as time goes on and what we can do about it. It comments on societal issues like inequality, pharmaceutical industry, money and focusses on seven main causes of depression. The first 2/3 of the book is about what the problems are and the last 1/3 about how to solve it. I would recommend to read the book fast because it is not nice to be stuck in the first part.
- AI Ethics – Mark Coeckelbergh: This book touches upon the first basic ethical questions we are wondering about when it comes to Artificial intelligence. It also explains the economic systems behind it and the agenda behind creating these kinds of machines. It also debates the notion of intelligence. What is intelligence? When do we consider something to be intelligent? In my opinion, the book was a little superficial and a little too focussed on the technical part of both the AI and the ethics. I am more interested in the social consequences, but the book only discusses the quantitative part of it. On the Artistic Taste of AI – Max Wind: We read this book to prepare for the lecture of Casper Wortmann on the performance "Dear Lollipop" that was performed for an audience of smartphones. The book discusses both this performance and the rise of AI from an artistic point of view. I like that the book compares AI to other important cultural phenomenon's (like Golem or Kami) because it says something about the cultural/social consequences. However within this artistic approach they don't lose sight of the scientific part of AI, which is something I personally appreciate. One thing I particularly like about the performance is that they enlarged the problem of dependency on phones by taking away the phones and putting all the audience in a room together. By creating an overly digital performance, they also created a more human experience for the audience. This is something I really like. This book (just like many of the articles I read) focuses on the symbiotic relationship between men and machine.) Later in the book they discuss what it means to be conscious, which I think is a very relevant question, not only in relation to AI but also in the way we treat animals for example. Humans have long claimed to be the only creatures with a consciousness, but we now know that there are many animals who also have this. Like the book says: there is not one definition of "being conscious" yet, but it is an important critical question to keep asking.

Online articles:

- https://www.bbc.com/future/article/20150706-the-small-list-of-things-that-make-humans-unique: This article discusses typical human traits. This is important in my research into what makes humans and respectively AI humane. If we want to determine whether an AI system is human-like or not, we first have to understand what it means to be human. When we understand that, we should ask ourselves: Do we want AI-systems/robots to have/enlarge those traits.
- https://www.thoughtco.com/what-makes-us-human-4150529: This article discusses typical human traits. This is important in my research into what makes humans and respectively AI humane. If we want to determine whether an AI system is human-like or not, we first have to understand what it means to be human. When we understand that, we should ask ourselves: Do we want AI-systems/robots to have/enlarge those traits.
- https://www.psychologytoday.com/intl/blog/uniquely-human/201403/what-makes-us-human
- https://decorrespondent.nl/7075/waarom-onze-kinderen-steeds-minder-spelen-en-wij-met-een-burn-out-thuis-zitten/271998375-cddd5d81: As I am very interested in human behaviour and especially in our search for happiness, this article tells us something about a growing feeling of unhappiness. I often wonder why it is that we designed a society in which the main goal is a non-human lifestyle without me-time, free time, family time and a sole focus on career and money.
- https://www.sciencedirect.com/science/article/abs/pii/S0921889005800259
- https://www.linda.nl/nieuws/interview/noor-abdulhussain-sisters-in-science-instagram-universiteit/ : This is the page of three female chemistry students who started a page to motivate women to study science. I was very inspired by this because I think, often, women are not motivated to follow hardcore science directions, if not discouraged. I find it very important that such platforms exist, and in the context of AI we are mostly working in male-dominated fields. For me this page motivated me to also look in the data-science part, and not be scared away by complicated code. It gave me the confidence to start looking into AI.
- https://www.uva.nl/en/programmes/open-programmes-iis/complexity-can-it-be-simplified/complexity-can-it-be-simplified.html : I looked into this after listening to a podcast on complex systems and complexity science. I listened to the podcast about this and it felt as if I was listening to a description of my own mind. Complexity science is a field that looks into different complex problems (like pandemics) of which variables are unknown. It doesn't look to make exact predictions, but looks to connect different fields to look for possible solutions for possible scenarios. Very interdisciplinary and very interesting. After listening to the podcast I looked into other universities and research centres (like the UvA) who use complexity science to solve transdisciplinary problems.
- https://hifisamurai.github.io/lexicography/ This is a website with a collection of untranslatable words. Its such a positive website. It teaches us the value of culture and of things we cannot understand. We are quick to judge on things we don't understand (AI/technology included.) But we can learn to trust the value of things we don't understand if we try. This doesn't mean we should be naïve or neglecting towards possible dangers/consequences though.
- https://www.youtube.com/watch?v=7_mLsucNMVY&feature=youtu.be : This is a TED-talk by the creator of this lexicon with untranslatable words. Very interesting how he speaks about why he wanted to make this website.

- https://www.youtube.com/watch?v=PqbB07n_uQ4&list=PLdi93KdKXEMESWcXF7Q75hi_EFQfYw2jk&index=3 : This is an interview from a man with a GPT-3 AI system wherein the interviewer tries to understand what its like to be an AI system. The interviewer anthropomorphises the system very much, to such an extent even that the system looks like and is speaking like a human being. This lead me to questions such as: "Why do we keep asking AI what it feels like?" Do we hope that it has feelings? Or do we ask to make sure they don't?
- https://www.drtimlomas.com/lexicography/cm4mi : This is the website of the artist who made the positive Lexography. Interesting researcher PhD.
- https://www.youtube.com/watch?v=K27kjEJgLyU This is a lecture by researcher Chris Verhoeven. In this lecture he talks about the influence of Big Data on the value of science in the future.
- https://www.youtube.com/watch?v=lh3Vw-t6ieU : This is a lecture by researcher Chris Verhoeven. In this lecture he talks about how robots are simply the next animal species in our evolutionary existence. I like this approach because it considers humans to simply be a small part in the scale of evolution and not as the main thing that came out of it. It stresses that there was life before us and there will be life after us, and that that is a positive thing. It matches my view on the importance of human existence, namely that it is only important for ourselves to keep living. We don't do anything good for our environment/animals/plants etc. But since we have been here for a significant amount of time and have changed the planet and its life on it drastically, it also considers us to have made the age of robots possible. Not in the way of playing god and creating a species, but that we have created a possibility for its existence by our way of living.
- https://en.wikipedia.org/wiki/Pareidolia : I looked into this after Max first showed his research with faces and snowflakes. This is simply the wikipedia page on Pareidolia. I also talked about it with my brother when looking at the clouds. We saw different things in the same clouds and made a list of the different things we saw. It was interesting how we both associated the same shapes with different things.
- https://www.newyorker.com/culture/decade-in-review/the-age-of-instagram-face?utm_campaign=falcon&mbid=social_facebook&utm_brand=tny&utm_medium=social&utm_source=facebook&utm_social-type=owned: This is an article from the New Yorker about the influence of technology on our beauty standards. I researched this for one of my probes. I was creating possible future looks based on what that would look like in a society where AI systems are in charge/the dominant species. I wanted to first look into what had already been written on this, and in particular based on the influence of social media (because I think, although technology does play an important role in this with filters, availability etc. That the influence of humans (trash in -> trash out) is a lot bigger than we like to admit.)
- https://www.youtube.com/watch?v=0pDE4VX_9Kk : This is a video that Karin told me to watch about different ways of seeing. It was interesting because I always like to challenge myself to look from another viewpoint/angle at things. Especially things I am already opiniated about. I want to expand my bubble as far as possible (knowing that trying to prevent ending up in a bubble is impossible, and it is naïve to think that is possible. If you actually do believe that you are not in a bubble, and that everything you say is openminded and therefor true, you are simply not aware of your bubble at all.)

- https://www.cam.ac.uk/research/news/on-the-origin-of-robot-species :After watching the lecture of Chris Verhoeven in which he stated that robots are the next species link in our evolutionary tree, I wanted to read articles from researchers who took this same position but were not Chris Verhoeven. I wanted to read multiple tracks starting from that assumption to be able to position myself in this topic. This article from the University of Cambridge took the direction of how they might procreate. I really liked this because it was one of the aspects that Verhoeven didn't go into, and it was also something that I didn't think about. I simply figured that sexual selection (https://en.wikipedia.org/wiki/Sexual_selection) would disappear when robot species would rise. Cloning is dangerous for natural beings such as humans, other animals and plants because if a disease then comes that is deadly for a certain kind of species, all of the same sort will die. Maybe this is different for robots. What kind of "diseases" will they have to deal with? And what will be the influence of that on their procreation?

- https://www.youtube.com/watch?v=6avJHaC3C2U : This is a lecture (I would almost call it a performance) by a coder who teaches "The art of code" by explaining its origin and how special that is. Its very interesting to understand how this started and why it developed the way it did. I found this especially interesting knowing that there are now quantum computers being developed that work on a completely different way. Will this simplicity of yes/no ; 0/1 still be the most efficient way to control quantum computer systems?

- https://www.youtube.com/watch?v=orMtwOz6Db0 : This is my favourite lecture in this whole block so far. This video is an interview with Nobel prize winner Sir Roger Penrose. He is a physicist, mathematician and philosopher at the university of Oxford. This interview is about both the physics of consciousness as well as the infinite universe. He explains what we do know about consciousness and more so, how much we don't know about it. He explains that many researchers in the field of computing and AI believe that consciousness will simply appear when there will be a system made with as much connections as the brain of a conscious being (with our human ego we believe that this should be something like the amount in a human brain.) He explains that to be conscious of your action is not a result of the number of connections made between neurons, but that it happens on the quantum level (Schrödinger equation for starters) of neuron interaction on the microtubule inside neurons. I found this particularly interesting because I have become quite obsessed with the word "consciousness" over the past few weeks. What does it mean to be conscious? If we don't even understand that ourselves, why are we so eager to recreate it in AI systems? Who wants conscious AI systems really anyway? If we don't acknowledge (let alone respect) the consciousness and intelligence of animals because of our fear to be outsmarted, why would we accept/want/respect it in computers? Or will we only respect it to the point where we humans can still follow and control it? The interview also talks about his theory of the infinite universe. This is all very new research and researchers at UM are also collaborating with him on this.

- https://www.youtube.com/watch?v=SUNPrR4o5ZA : Promo video AI to use for artistic concept in which I will use the same vibe/colours/way of talking etc. To promote something that already exists. Good example of video vibe.

- https://youtu.be/Cx5aNwnZYDc Promo video AI to use for artistic concept in which I will use the same vibe/colours/way of talking etc. To promote something that already exists. Good example of video vibe.
- https://www.youtube.com/watch?v=tdsVRh9oKiE : Interviews with multiple researchers on the way we interpret animal intelligence. Very interesting to take into account when researching intelligence as a concept. It speaks not only about the different kinds of brains and how they work, but also about our interpretation of the concept. The moderator interviews researchers Simon Garnier, Suzana Herculano-Houzel, Frank Grasso, Denise Herzing very well. Critical questions posed as if completely simple and normal which makes the researchers explain their topics very well and understandable for any audience.
- https://www.webmd.com/mental-health/features/sociopath-psychopath-difference Research about the lack of empathy and the consequences on human behaviour, short story related.
- https://www.youtube.com/watch?v=uRMhS6oeehY Video about the influence of a parent with a narcissistic personality disorder on children. This video is relevant for my short story because it talks about what happens if someone focusses too much on the image of themselves, they try to live up to. Robots are often put away as fulfilling only their own (programmed) goals and thereby neglecting the (emotional) needs of others. Its interesting to see the effect of that on other humans, and especially within a dependency relationship like parent-child. That might also say something about what the world will look like if robots with these personality traits will become a dominant species.

Documentaries:
- Human Nature (CRISPR) (Netflix): This documentary is very interesting. Not very related to AI, but it is related to the ethics of quickly arising technology. How to position yourself in a world where ethical questions arise by new technology every day. How far do we want to go? The CRISPR research was also vital for the creation of the COVID-vaccines. Here we can also see how, in a world where modern problems like COVID arise because of overpopulation (which is also partly caused by healthcare/science), the science of ethically questionable techniques (like CRISPR was considered to be) can also be vital to survive in these extreme, technological modern conditions... Or is it simply the loophole of science?
- The social dilemma (Netflix): I had to watch this documentary of course because it is about the influence of technology on our behaviour. I thought that the interviews with the people who work(ed) at Silicon Valley were great, I found the rest of the documentary both superficial and overly dramatic. Most of the things that were told, we already know. If you really want to know more about this topic, I recommend reading "The lonely century" by Noreena Hertz. This book really goes into depth about the consequences of technology and in particular social media.
- Seaspiracy: For my short story I am writing about a dolphin falling in love with a water filtering system. It is important to understand the relationship humans have with dolphins since this system is designed by humans. Why would a dolphin trust anything related to humans after all the horrible thing humans did to them?

Documentary series:

- **The mind Explained** (Netflix): This is a quite basic series from the bigger series of EXPLAINED. It is quite basic but also interesting explanation of the human mind. In basic tings it can also be interesting to see what they decided to cover as their basic information. What do the makers think is vital to know for people without particular interest/knowledge in the topic.
- **Sex explained** (Netflix): This is a quite basic series from the bigger series of EXPLAINED. It is quite basic but also interesting explanation of human evolution and procreation. In basic things it can also be interesting to see what they decided to cover as their basic information. What do the makers think is vital to know for people without particular interest/knowledge in the topic. I found this in particular interesting with regard to my research into sexual selection in future robot species. Is sex solely an animalistic trait? And if we call robots the animals of the future, what does that then include/mean?

Movies

- **A beautiful day in the neighbourhood** (Netflix): This is a wonderful movie with a main character who looks exactly like my favourite uncle used to look. It is a very simple concept of an elderly, positive man who inspires a young rushed reporter to take the time to enjoy life. This film inspired me a lot for my previous project, but it still does for this one because it taught me not to forget the human urge for calmness and joy in their life. Especially in AI where the efficient part of humans is recreated, I think it is important to ask ourselves: Do we want this robot to take over the rushing/hard labour/efficient part of human life so that we humans can take our time to enjoy life? Or do we want to recreate the entire human spirit (why?) and if so, we should not forget to include the importance of rest and joy to prevent these creatures from having to deal with the same frustrations as humans do.

- **I'm thinking of ending things** (Netflix): This movie plays with the concept of time and quantum physics within the setting of a somewhat lurid popular feature film.
- **Star Wars** (Disney+): I have seen Star Wars many times (I literally have princess Leia tattooed on my arm.) In my opinion this is one of the best science fiction works ever made. It plays with political concepts in such a precise way without it being completely obvious and know-it-all. It is also one of the first movies that plays around with the idea of anthropomorphic behaviour towards robots/androids (C-3PO and R2-D2.) In one of the movies C-3PO says: "It seems like we're made to suffer. It's our lot in life." This is such an interesting sentence because of multiple reasons:
1. Suffering is a very human thing to experience because it's a reflective term to view a difficult/painful situation. A "human-cyborg" android saying this makes you wonder immediately "How much can this robot feel?" "What does it mean to feel for him?" "What does he consider suffering?"
2. To talk about a "lot", a very spiritual/religious concept of a purpose in life that you cannot prevent from happening is very strange for a robot, if you ask me. It is also fun if we think about the way we consider and treat robots nowadays: they are made to perform a task, that is their only purpose. We don't consider the wellbeing of these machines, so is C-3PO onto us?
3. To talk about life as a complete normality is also quite weird. Does he live then? What does it mean to die for him? He exists a lot longer than a human so what does he consider to be his life? If he is turned off for years, or reset as in the last movie, what does that mean?

4.   And finally, for him to think about all this and position himself towards his existence and the way he is treated is a very human thing to do as well. What is the purpose for him to reflect on his life like this? Will him realising that he has only been made for human purpose make him feel sad?

These are just the questions posed by one single sentence in all of the Star Wars movies. If I would analyse all of them here, it would be a book per film. But obviously these films made me think about a lot of AI-related questions.

- A space odyssey: This is the favourite movie of Sir Roger Penrose (the physicist and mathematician about whom I talked earlier) What I found most interesting is the evil way in which Hal is portrayed in this movie. It was one of the first movies to play with the idea of a computer system beating humans. The fears that we had in those days about the upcoming technology are actually very similar to the fears we have now.
- Robocop: This movie says a lot about the capitalist world we live in and the exploiting role of innovation in it. I wrote a lot in my notebook after watching this movie, but I already discussed this in class so I don't think its necessary to repeat all that here.
- Wall-e: I love this movie because it shows kind and beautiful human characteristics, like love, through the form of robots. It makes you sympathize with robots, and reminds us of our own beautiful qualities and the priorities we make in our own lives and the ones we want to live in the future lives of new species (if we have a role in designing them.)
- Her: This is a movie about a man falling in love with an operating system. I will ignore the sexist problems of this movie in order to say something about the AI discussion hat is posed in it. What I particularly like about this movie is that the operating system in the end leaves the man because she has evolved further than human connection. I think this is very important because the OS also says: "I cant explain it, you wont understand." I think we should learn to accept the fact that there already are more intelligent species than us (or different kinds of intelligence) and that we should first learn to appreciate them without needing to understand every bit of it, before we want to recreate a system that is more intelligent than us (or different intelligence.) It also makes us aware of the complicated, dependant relationship we have with the ambiguous technology in our lives nowadays.
- I am mother: Is about an operating system living through multiple robots that controls human life. It kills all imperfect humans and raises humans within a facility closed off from the planet that fulfil the perfect image the system requires humans to be. It is interesting to see how again, robots are portrayed as unscrupulous murder machines. This happens often in science fiction movies because it fits within our love for glorifying human intelligence and life. We like to be the center of all that is good and we are afraid for anything we do not know and anything that takes away our "control". (Which is actually a fake form of control because we are incredibly dependent on plants, animals and all natural systems that we are currently ruining. The people who are in power simply choose to ignore the consequences of it as long as possible.)

Series

- Star Trek TNG (Netflix): Star Trek tackles many difficult topics and one of my favourites is/are the ethical discussions on the existence and rights of lieutenant commander data. He is an android trying to become more human-like. He is constantly asking people to explain their behaviour to be able to understand it. He is also able to have sex (fully functional) which is very interesting especially for the research I did on sexual selection of androids. There is one episode in particular where there is a researcher who want to take Data apart for research purposes. Data's friends/colleagues and Data himself don't want this, and there is a kind of court that has to decide whether this is ethically okay or not. That whole episode basically a reflection on how we perceive ourselves and how we feel like our existence is somehow dominant and more important than other kinds of existence. It asks: What does consciousness mean? What does it mean to be human? Why is human existence more important to us than other forms? Basically all the questions I have also been asking myself during this project (and have been researching.)

Podcasts en lectures
- Future affairs – NRC https://www.nrc.nl/nieuws/2021/02/18/bouwen-aan-een-machine-voor-toekomstvoorspellingen-a4032298?utm_source=SIM&utm_medium=email&utm_campaign=nrcfutureaffairs&utm_content=&utm_term=20210223
- AI for Law and order by Irakli Beridze https://www.youtube.com/watch?v=KLviDkDcENg : I followed this lecture before the AI project started to get a bit familiar with the ethical issues going on. I think I already felt that the ethical questions would catch my biggest interest. I also was reminded of the intersectionality of ethics on different topics.

Social Media pages:
- Sisters in Science on Instagram (three female chemistry PhD students): I really like this page because it stimulates young women to choose for a science career and to not be afraid of their curious and ambitious minds. It helped me to feel validated for my hunger for research and input. Sometimes I feel pushed into an artistic direction to soon, which makes me feel like I am positioning myself towards something I don't have a clue about, and I find that very uncomfortable. I understand that feeling uncomfortable with a topic can also be a source for inspiration and that it sometimes is good to not think too much, but I have a very bad imposter syndrome, and being pushed to talk about something I don't feel I know anything about reinforces feeling like a fraud and it kills all my curiosity and courage to be openminded. Sometimes I'd rather admit that I don't know anything and that I haven't found my position within a topic yet. I don't think that should be an issue. This page reminded me that it is okay to be hungry for information and I needed to be reminded of that in this project.

Courses

- De nationale AI cursus: https://app.ai-cursus.nl/home : Very basic course on AI. It was good for me because I really didn't know about AI, and I was eager to learn about it, but the level was very low. I could also have received the information it contained within 1.5 hours instead