



accessibility kit

< subtitles / transcripts >



sponsored by





“

Accessibility allows us to
tap into everyone's
potential.

– Debra Ruh

the ai for good accessibility kit!

Welcome to the AI for Good Accessibility Kit! We have designed these resources to provide:

- **Ease of access** to the curriculum videos for you and your students.
- **Subtitles** and closed caption on videos.
- **Transcripts** of all the videos.

🗨 here's how to access these features.

In each of the teacher resources PDFs, we provide a range of different insights for you. These include: The AI for Good Challenge is a design challenge, where your students first learn about Artificial Intelligence, and then dream up a solution to make the world better using AI. Here is all the info on how to access the closed captions feature to show subtitles in our videos!

1. access videos via youtube.

Click on the video links for each video or the playlist to see them all.

AI for Good Youtube Playlist to access all videos <http://yt.vu/p/PLjbteNS-pRNRjqNGPGr1sFEIchtFiJ2Qd>

AI for Good video (hype reel - all text) https://youtu.be/A0cMr9f_N2A

Introduction to the AI for Good Challenge https://youtu.be/anG_FdO3Tww

1.0 Welcome to the AI for Good Challenge <https://youtu.be/FlzvnvxEpZ8>

1.1 What is AI? <https://youtu.be/B4uVvY9DDVo>

1.2 AI in your life <https://youtu.be/vtyK1vD-E1A>

1.3 How AI can help us https://youtu.be/uO3gg_31dWM

2.0 Why AI ethics matter <https://youtu.be/CkJO20S5grA>

2.1 AI ethics principles <https://youtu.be/cEtU-mtMOAU>

2.2 AI in the news <https://youtu.be/Qzs5XhloWpw>

3.0 What is AI for Good? <https://youtu.be/oeJVhNMliqQ>

3.1 AI for Good Examples <https://youtu.be/PNXKBbh5OYk>

3.2 Finding your passion <https://youtu.be/b-O6F7Wc3TU>

4.0 Kickstarting the Challenge https://youtu.be/FMObl_J_Yso

4.1 Understanding the Problem <https://youtu.be/Go5e6WPfSkY>

4.2 Coming up with Solutions <https://youtu.be/4-fw8s-5moQ>

4.3 Picking and Improving Ideas <https://youtu.be/yhc2LHiBjUA>

4.4 Ethics check-in https://youtu.be/3Hx1M_KImY

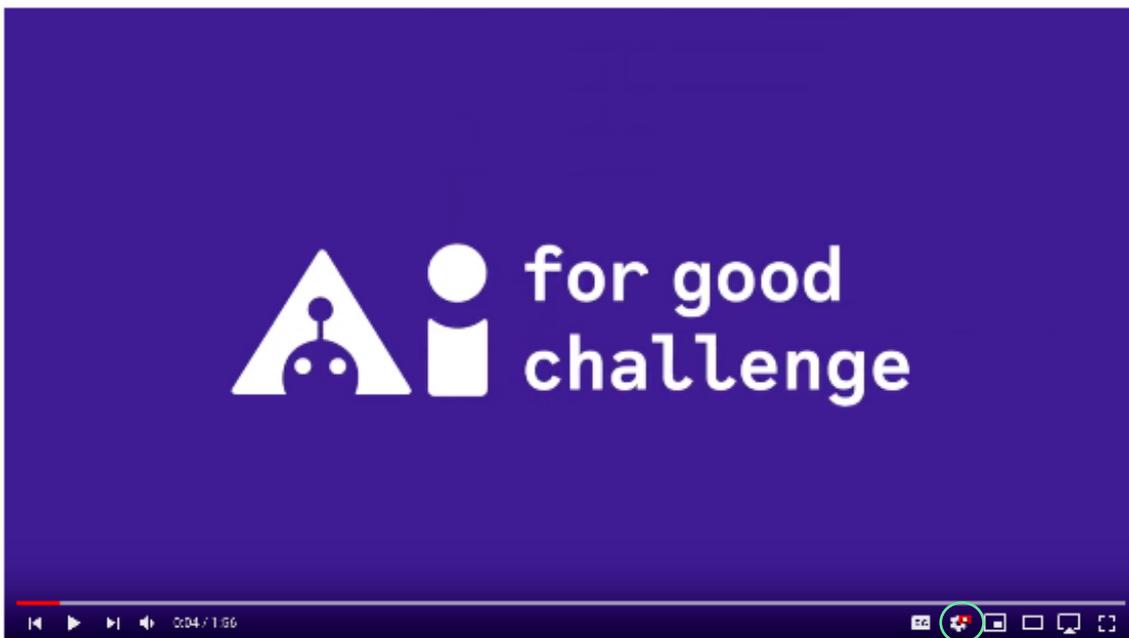
4.5 Your submission <https://youtu.be/R08nAuDjUPQ>



more on accessing these features.

2. click on CC.

Use 'closed caption' feature by clicking on the CC icon  at the bottom right of the video. Here is where you can find it:



AI for Good Challenge Introduction

3. transcripts.

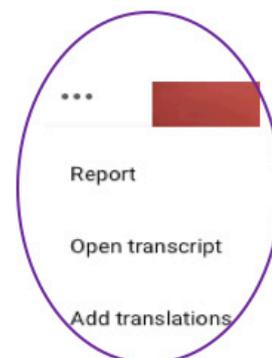
You can also open the transcript to read the text by clicking the “...” (three dots, under the video) and selecting “open transcript”. You will see the script open to the right of the video like so:



Microsoft AI: Inspiring Possibility ft. Common

1,395 views

👍 59 🗨️ 4 ➦ SHARE ⇄ SAVE ⋮



Alternatively all the transcripts are contained here on this PDF.

the four learning modules.

In the AI for Good Challenge there are four learning modules designed to help your students understand what Artificial Intelligence is, understand the ethics of the technology and its potential for good, and then help them to dream up an AI concept that will make the world better. We encourage you to engage with all of the sessions in the modules, however at a minimum we would recommend at least engaging with at least one session per module. There's a video for each section!

module 1: what is ai?

1.0 Welcome to the AI for Good Challenge:

A quick intro to the challenge, with early activities for your students.

1.1 **What is AI?:** We help to explain what AI is, it's history and the different types of AI.

1.2 **AI in your life:** A module to help your students realise how often they use AI!

1.3 **How AI can help us :** To help your students understand the possibilities of AI for good, we share powerful uses of AI across the world.

module 2: ethics of ai

2.0 **Why AI ethics matter:** A chance to open the conversation about how powerful, and how risky AI can be.

2.1 **AI ethics principles:** More philosophy than technology, this continues our exploration into the ethics of AI.

2.2 **AI in the news:** Designed to help your students see the ethics of AI all around them, and to engage with the ongoing debate on how this technology should be used.

module 3: ai for good

3.0 **What is AI for Good?:** In this session students are inspired by the possibilities of AI, and how it can positively affect the world in their lifetime.

3.1 **AI for Good Examples:** To ignite their creativity for the challenge, students then engage with real world examples of AI being used for good.

3.2 **Finding your passion:** Students are then supported to start to focus down on the key area that they want to see change in.

module 4: the challenge

4.0 **Kickstarting the Challenge:** Equipped with learnings, the creativity begins!

4.1 **The Problem:** How to understand it!

4.2 **Coming up with Solutions:** Innovating solutions.

4.3 **Picking and Improving Ideas:** Choosing the best idea and making it better.

4.4 **Ethics Check-in:** Your idea's ethics.

4.5 **Your submission:** How to enter a great submission and submit correctly.

here are the transcripts.

The next part has all the transcripts for each video we have produced for the AI for Good Challenge. These are handy videos explaining the concepts we present in each module. They go with the powerful curriculum linked PDF teacher resource guides with core activities as well as extra learning activities to deepen the learning, a slide-deck to show students, and plenty other resources. Have fun in the challenge, and good luck to you and your students!

intro to ai for good challenge.

Aaron: Australian teachers and school leaders I know you are busy so I'll get straight to it. My name is Aaron Tait from Education Changemakers and sponsored by Microsoft, in 2019, we are launching the AI for Good challenge.

The AI for Good challenge is a national competition that will see high school students engaging with understanding what artificial intelligence is, understanding the ethics behind this new technology, having the confidence to be really engaged in what the technology can do and most importantly building real world solutions using AI as a tool.

We know that you are busy with competing demands teachers so all the lessons that are curriculum aligned across a whole bunch of subjects. There are lesson plans, there are slide decks, there are activities, there are engaging videos that your students can engage with.

Here's how it works. Term one is your time to express your interest that you want your school to be involved in the AI for Good challenge. Term two is all the learning and also the creating of the great artificial intelligence ideas for your students. Again that's where all those resources are coming your way with webinars you can dial into, there's also hackathons in every city in Australia that you can come along to as well with your students.

Term three is where it gets big and exciting. That is the state finals and the national finals where we're flying kids into Sydney for the national finals at the Microsoft headquarters. There's great prizes up for grabs and big main prize as well for your school.

The AI for Good challenge is a highly engaging, is a future focused challenge, we're running this year with Microsoft (sponsoring). It's going to be great. We can't wait to see what the students enter with their submissions and we can't wait to see your school involved. Visit aiforgood.com.au to find out what you need to know.

[00:01:57]

[END OF AUDIO]

1.0 Welcome to AI for Good Challenge.

Common: Today, right now, you have more power at your fingertips than entire generations that came before you. Think about that. That's what technology really is. It's possibility. It's adaptability. It's capability. In the end, it's only a tool. What's a hammer without a person who swings it? It's not about what technology can do, it's about what you can do with it.

You're the voice and it's the microphone. When you're the artist, it's the paintbrush. We are living in the future we always dreamed of. We have Mixed Reality that changes how we see the world and AI empowering us to change the world we see. You have more power at your fingertips than entire generations that came before you. Here's the question. What will you do with it?

Aaron: All right. That is Common talking about Artificial Intelligence. AI as we refer to it. My name is Aaron. I'm also here to talk about AI. In particular, that AI for Good Challenge that we're launching in Australia in 2019 for high school students. Now, this is going to be an awesome challenge to help Australian high school students to really understand what artificial intelligence is. Really have some confidence to engage with it as a technology that they feel they can be part of. Most importantly build ideas to help make the world better.

The AI for Good Challenge is being run by Education Changemakers. Education Changemakers works across the world to help people innovate solutions to make the world better and to make schools better. I'm one of the founders of Education Changemakers. I also built a non-profit called YGAP that I co-founded. What we do at YGAP is we go all around the world, helping find awesome local entrepreneurs who build great ideas to bring people out of poverty.

There's almost a million people now with education or jobs or great healthcare because of that organization. I've also picked up a few degrees along the way including from Cambridge University. I've used all these experiences to help make a difference for people in the world. The other trainer, Emily, has used her experiences to make it different for the environment.

Emily: Hi, I'm Emily. I grew up in a tech family with my dad as a computer programmer and my brother as an analyst. It's been pretty cool seeing technology evolve. At Education Changemakers, I am the Director of Community. As a teacher, my focus has been around student action, well-being, and environmental sustainability.

In my spare time, I'm a citizen scientist with the Eco-Centre analysing marine debris. I'm the lead educator of Zero Waste Victoria helping empower people to reduce their waste. Back to you, Aaron.

1.0 welcome to ai for good challenge.

Aaron: Here is how the AI for Good Challenge works. During term two, you're going to engage with lots of resources and your teachers will be equipped with lesson plans and webinars, and all sorts of trainings that you can get involved with. We're even going to run hackathons in each city around the country. You can come along and we can help you innovate solutions.

Term two is all about learning and then building great solutions to make a difference. Term three, that's where the big stuff happens. It's the state finals, and then the national finals. There's awesome prizes. There's big trophies. It's going to be awesome.

You might be thinking as you're listening to this, scratching your head, going, "Aaron, I don't know about AI. I don't know what I can build to make a difference in the world." Don't stress. We are here to teach you loads of stuff. You're going to learn a lot about this technology. More importantly, engage with it with confidence and build something awesome for the world. Let's get into it.

[00:04:02]

[END OF AUDIO]

1.1 welcome to ai for good challenge.

Aaron: All right. Artificial intelligence; it's something that we hear a lot about nowadays, but I think a lot of us don't really understand what it is. Maybe our ideas are informed more by movies than actual reality. We see these in killer robots coming down and taking over the earth. Artificial intelligence is a scientific field. People have been studying it for years, and it's something that you can really engage with. That's what the AI for Good Challenge is all about. Before the science, let's do a bit of history and some English as well. The history first.

Alan Turing was a guy who in the 1930s basically invented computers. Really smart, huge brain guy. In the 1940s, he was focused on working with the British government to help win World War 2. He was cracking codes and doing amazing things. In the 1950s, though, he talked about a machine that could think and learn. He invented something called the Turing test, which we'll going to dig down into a little bit more into this module.

They actually made a movie about this guy. It's called the Imitation Game. It's by the same actor who played Dr. Strange in the Avengers, if you're a Marvel fan. Since his work, loads of computer scientists, and people in Silicon Valley and entrepreneurs, and inventors have been working with this idea of artificial intelligence. What is it? This is for the English lesson now.

1.1 welcome to ai for good challenge.

Let's talk about intelligence first. Intelligence is the ability to achieve complex goals. You've used your intelligence many times today; making your toast, walking to school, having a conversation, that's all uses of you using your intelligence.

Artificial intelligence is basically the ability for something that isn't human or isn't an animal to do that. It is non-biological intelligence. People often think it's such a robot, right? Not really. Think of the robot as the container and the intelligence is inside the robot, and it's the algorithm and the code and that machine that is doing that thinking. Artificial intelligence is a machine that is not human that can achieve complex goals.

We need to get a bit more specific here. There's actually two types. There is narrow artificial intelligence. That is like I have a robot vacuum cleaner in my house. I turned it on, it vacuums my house. It's like this big, and it's really, really good at vacuuming my house. That is narrow intelligence and the world has made huge amounts of those machines.

General intelligence is the holy grail. This is an artificial intelligence that can achieve incredible amounts of things across all different disciplines, but more importantly, it's learning all the time. General intelligence can learn every language, that the world has ever created, overnight, if you leave the machine on.

Narrow intelligence, it does a really specific thing. General intelligence is this big like, "If this thing happens, this is going to be such a smart machine." AI is about 70 years old, a lot of people have been working on it for a long time. It is the ability for a machine that isn't a human to achieve a complex goal. There is narrow; it does a specific job. There is general, which is the holy grail that we haven't achieved just yet.

In this module, there's lots of other activities and resources that your teacher might want to use with you as well to help you learn more about artificial intelligence and how you can start thinking about how you can engage with it. Enjoy.

[00:04:07]

[END OF AUDIO]

1.2 ai in your life.

Emily: Thinking specifically about today, how do you think you have interacted with AI, or have you? Chances are, the answer is yes, you have because if you have touched your smartphone, been on emails, been on social media, AI has played a part in all those things. From your spam filters, to the targeted ads because you've liked or commented on something. This is AI at work. It's taking the data, and it's utilising it.

AI is impacting our daily choices. That's pretty massive, isn't it? It's something we're going to be delving into in this part of the module. How is AI part of our lives and how is AI helping us? It's not an AI for Good challenge without delving into all these parts.

A pretty cool thing would be to go to and ask your parents or older adults to see when they first discovered AI or even if they know what AI is because Harry Shum, the Microsoft executive vice president recently said, "AI will augment humanity. It will give each of us super powers to meet challenges of all kinds, including some of the biggest ones." That's pretty massive! How is AI helping you and what super powers has it given you today?

[00:01:42]

[END OF AUDIO]

1.3 cognitive services.

Emily: There are some pretty cool ways that artificial intelligence is being used, which is basically collecting all these data and doing something with it. Something good, we hope. We'll have a look at some great examples within Australia, and how we're harnessing artificial intelligence. We're going to have a look at Microsoft's Cognitive Services now. They're basically harnessing the power of machine learning and building in capabilities of advances of intelligence to provide a myriad of solutions with vision, speech, language, knowledge, and search, which is pretty cool, because we're designing and we're building with senses like humans, but also super-human senses. For example, in radar, which is basically spatial awareness, but amplified. It's able to process huge amounts of data without having to eat, sleep, or go to the toilet, and things like that. It's pretty cool. What we're going to have a look at right now is the Seeing AI app.

Saqib Shaikh: I'm Saqib Shaikh. I lost my sight when I was seven. Shortly after that, I went to a school for the blind, and that's where I was introduced to talking computers. That really opened up a whole new world of opportunities. I joined Microsoft 10 years ago as a software engineer. I love making things which improve people's lives. One of the things I've always dreamed of since I was at university, was this idea of something that could tell you at any moment, what's going on around you.

1.3 cognitive services.

Seeing AI app: I think it's a man, jumping in the air, doing a trick on a skateboard.

Saqib: I teamed up with like-minded engineers to make an app which lets you know who and what is around you. It's based on top of the Microsoft Intelligence APIs, which makes it so much easy to make this thing. The app runs on smartphones, but also on the Pivthead SMART glasses. When you're talking to a bigger group, sometimes you can talk and talk, and there's no response, and you think, is everyone listening really well, or are they half asleep? You'll never know.

Seeing AI app: I see two faces; 40-year-old man with a beard, looking surprised; 20-year-old woman, looking happy.

Saqib: The app can describe the general age, and gender of the people around me, and what their emotions are, which is incredible. One of the things that's most useful about the app, is the ability to read out text.

Waitress: Hello, good afternoon. Here's your menu.

Saqib: Okay, thank you. I can use the app on my phone to take a picture of the menu. It's going to guide me on how to take that correct photo.

Seeing AI app: Move camera to the bottom right and away from the document.

Saqib: Then, it'll recognise the text. Read me the headings.

Seeing AI app: I see appetizers, salads, paninis, pizzas, pastas.

Saqib: Years ago, this was science fiction. I never thought it would be something that you could actually do, but artificial intelligence is improving at an ever faster rate. I'm really excited to see where we can take this. As engineers, we're always standing on the shoulders of giants; building on top of what went before. In this case, we've taken years of research from Microsoft Research to pull this off.

Seeing AI app: I think it's a young girl, throwing an orange frisbee in the park.

Saqib: For me, it's about taking that far-off dream and building it one step at a time. I think this is just the beginning.

Emily: Seeing AI is a research project that Microsoft has developed for people who are visually impaired or blind, to help them understand who or what is around them. It's utilising this great Microsoft Cognitive Services in computer vision, image and speech recognition, natural language processing, and machine learning. It's pretty cool stuff, and it's an app that is available to download right now. It's still evolving, so some things are in trial mode.

What we're encouraging you now to do is check out this awesome technology that Microsoft has created and have a play and experience them. We'll see you very soon in Module 2, which is going to be delving into the ethics around artificial intelligence. Have fun!

2.0 why ai ethics matter.

Aaron: All right. I'm pretty sure you agree artificial intelligence is super exciting. In fact, it's maybe the most exciting thing to happen to humans for a very long time, maybe ever. There are these people called digital utopians and they think that AI is going to be so awesome. It's going to make our lives so much better with all these hacks and machines and little tricks that it can do for us.

Also, there's a bunch of very, very smart people who are saying that artificial intelligence could actually be really scary. Let's look into that a little bit. Now, in the short term, I think what we're going to see from artificial intelligence is a lot of jobs changing. Think of drivers, taxi drivers, bus drivers, postal workers. When self-driving cars come along where human no longer drives the car, so it's artificial intelligence now, there's a lot of those drivers who are going to lose their jobs.

In fact, the Foundation for Young Australians, they expect that half of the jobs that you're currently thinking about moving into after school, they'll be gone in 10 years. Accounting jobs, medical jobs, all sorts of jobs. This is just the short term though. If the world can create a general intelligence, artificial general intelligence, we talked about this before, the ability for machine to learn and get smarter and be really, really good at a lot of different things, this would be interesting for the world because if this thing gets smarter, and smarter, and smarter, then it becomes smarter than us.

This can be a really scary idea, but let me explain it to you in a really non-scary way. Now, there's an AI that was built called DeepMind. This is a non-human machine that's job is to learn as fast as possible. Now, they put this AI into a computer game and they said, "Your job is to get as many points as you can, that's it." They didn't tell it other ways that it could win the game. You'll see as the machine starts playing the game, in the first 10 minutes or so, it makes a whole bunch of errors just like we would if we were learning a game. Then over the next hour or two, it starts to get really, really good. In fact, it's playing better than perhaps most of us could play. It's learning as it's going. Here's where it gets interesting. At the three or four hour mark, it's so good at the game, it's learnt so much, that actually it's the best player in the world. It is better than any human that's ever played that game. It is an artificial intelligence, it's a non-human machine that is achieving a complex goal. You might think, "Oh, that's cute. I only know this machine, this artificial intelligence, can win the computer game," but actually what's most interesting is that it's learned how to win the computer game.

Imagine if you let this thing learn other things. Imagine if it started learning every language the world's ever created, and that takes it four or five hours to do that. You accidentally leave it on while you're making coffee and you come back and you realize, "Wow, this has just memorized every article on Wikipedia that's ever been written before." That's exciting for the world, this machine can learn a lot, but if it's getting smarter than us, we need to actually be concerned. For example, we're smarter than tigers

2.0 why ai ethics matter.

Even though they're these massive aggressive animals. We're smarter than them, so we win.

If this artificial intelligence becomes smarter than us, does it win? Isaac Asimov is a sci-fi writer and he said that science is actually gaining knowledge faster, perhaps than society is gaining wisdom. It's a really interesting concept. Irwin Corey, a philosopher, he said, "If we don't change direction soon, we'll end up where we're going." The world is on the brink right now of potentially creating these general intelligences, these incredible machines that can learn really, really, really fast and get really smart. That could be awesome or it could be bad for us.

Before you think, "Oh, oh, the world's going to end, here come the machines. The killer robots are taking over." There are some really smart people working on this right now. Also, we need you working on it. You are the next generation of AI builders. You are going to be using AI technologies to make a difference in the world. That is what the AI for Good challenge is all about. So in this section, we're going to engage with the ethics, with the decisions that have to be made around artificial intelligence, and you are going to be in the driving seat.

[00:04:50]

[END OF AUDIO]

2.1 why ai ethics matter.

Emily: With great power comes great responsibility. That's what they say in Spider-Man, right? But it's also really relevant to us in AI because we've seen how powerful AI can be. It could be extremely cool or extremely terrifying, but we've got to figure out like what are the rules? Who is the boss and who makes sure we follow these rules? Currently, there is no international standard or principles but in 2017, there was a conference that looked around this area and they developed the Asilomar AI principles which tap into the research issues, the ethics, the values and also outline some of the longer term issues we might be facing with AI.

It's something that Elon Musk has signed and also the late Stephen Hawking. Microsoft have also developed their AI principles which is around a great number of areas including fairness, inclusivity, reliability, safety, transparency, accuracy, privacy and security. These are all these different areas that they've deemed to be really important. We're going to throw over to Brad Smith, the Microsoft President to explain these in a sec.

Over to you, Brad Smith.

2.1 why ai ethics matter.

Brad Smith: The question is not what computers can do. It's what computers should do because computers will be able to do more and more and more. We get to decide as communities, as countries and as a global society what computers should do. That fundamentally means it's for people to chart the path and the future of artificial intelligence. It's therefore so important that this work be guided by ethical principles.

I don't think we're yet at a point where one can say magically, we know exactly what the ethical principles should be, but in our book, we have done at least our best work to seek to define the six principles that we think are most important. In some ways I would start with the two at the top and the center because they're principles that have in fact been around for some period of time.

This importance of having artificial intelligence be reliable and safe and also ensure that it protect privacy and security. These are two areas where we've been focused on technology for a long time where the law is even well-developed. But as we think about the future, it is so fundamentally important that AI systems be fair. If we are going to empower computers to make decisions that people make today, we must ensure that these decisions are made fairly. We have to ensure that we don't take the biases that are explicit or implicit in human reasoning and simply incorporate them into computer decision-making without real thought beforehand. We need to protect against that stance of unfairness.

Similarly, we need to figure out what it means to ensure that AI is inclusive, when it can have such an overwhelmingly important impact on people with disabilities. We need to ensure that a focus on their needs is made part of the score. All four of these ethical principles at the top really do rely on two others. You heard some reference to this already. Without transparency, there simply is no way of knowing whether AI is adhering to these or any other ethical principles. Transparency is of paramount importance and at the end of the day, perhaps the bedrock principle of all is an assurance of accountability.

We must ensure that computers remain accountable to people and that the people who design AI systems remain accountable to other people. That is the only way to ensure that all of us individually and collectively will genuinely remain the masters of our own destiny.

Emily: What should computers do? This is a really good question and something we'll be exploring in this module. As AI is rapidly evolving, we really need a set of guiding principles. What do you think are the most important? Do you agree with them? We're going to be delving deeper into this area throughout this module. Enjoy.

[00:04:51]

[END OF AUDIO]

2.2 ai in the news.

Emily: Now we're going to check out some AI in the news as they're making some headlines good and bad. They're plenty to debate about. In Australia, we're using AI around biosecurity. That means it's identifying things like plants and animals and seeing if they pose any threat, like if they carry diseases and things. In a thing called Chimp Face, yes Chimp Face. It is using facial recognition technology and it has a database of rescue chimps, their photos, and it's checking on the web to save any of them being listed to be sold or bought.

In something that you probably use a lot, Instagram. On Instagram, a feature that was released last year is developed for people with visual impairment. You can customise your own alternate text to describe the picture. It also uses object recognition to describe what the picture is. In China, there's a surveillance security system which uses facial recognition technology, body scanning, and geo-tracking. There's a trial that's happened to track all the movements and see if they could sort staff. They get social credits which they can redeem for goods and services, or if they've done some not so good things, which meant that you might get fined or something like that.

If you're jaywalking they might see that and then text you, you're fined. China is also working with USA on a great thing that is helping seriously ill children. It's actually medically diagnosing children with life-threatening diseases. It's doing it in a such a great right that there's an 85% to 93% accuracy. There's some really, really good stuff that's happening. There's also things like in basketball, AI is basically filming and directing the whole coverage from getting like those key shots from a three-pointer, or tracking all the players through their movements and slicing that together. You wouldn't even know that it's all done by AI.

There's some really cool stuff that's happening. In Australia, we've had an open letter early in 2019 from Australian business and industry leaders who've outlined some of their concerns around autonomous vehicles. Self-driving vehicles, who's programming them? What ethics are in there, and who's responsible if they happen to crash. AI-powered hiring for your job. If you're going for a job, would you want AI to hire you knowing that there could be some bias around that area? There's also fake news bots, which are just implanting fake news.

There's a lot of concern around some of the AI and the misuse or possible misuse around them. We need a framework or principles and regulation around this area. With the pace of development, how quick AI is developing and how powerful it is. Our laws are struggling to keep up. This is something that has been a big concern. There was an AI forum in February. We want you to go and check it out now. We've listed some of the news articles, but there's plenty more out there. Go and research your own. See what's out there, pick something in your team to debate about.

3.0 what is ai for good?

Aaron: 20 years ago when I was only 15, my alarm would go off on the morning. It was this horrible like digital alarm clock sound. I'd struggle into the kitchen and I'll make my own toast. Mum would remind, "It's your dad's birthday." I was like, "I forgot." and then I give him a hug, "Happy birthday, dad." My older brother he had his Ps by then so he'd drive me to school. We'd turn on the radio and the Backstreet boys were playing. They were the biggest band in 1999, embarrassingly.

My brother would drive to school using his memory of the best way to get there. He had no idea what the traffic was doing and almost crashed a few times because he was just on his Ps. I get to school. At school I have a pen and a notebook and I'd be taking my notes about classes, just thinking about when I can get out of class and go for a surf. I'd rush out of school end of the day and I'd go down to the beach with my board and I'd think, "The waves are no good." and I was just hoping they were going to be good but I get there and they're not.

I head home and maybe I call my girlfriend up on the one phone that we had on the house and my brother after a while says, "Hey Aaron, I want to use the internet," so he'd unplug the phone and plug the internet in. This was the realities of being a 15 year old in 1999.

Now let's imagine I'm a 15 year old 20 years from now. Different reality. Maybe Cortana my artificial intelligence digital assistant, it wakes me up at the perfect sleep cycle so I wake up really, really fresh. When I walk into the kitchen feeling nice and fresh because of the sleep cycle, the food's already there for me. It's yummy, it's what I love and it's not unhealthy.

As I'm eating my food I'm receiving updates about the weather, notifications from my friends. I think rather than going to school for the first lesson I'm going to put on my holler lens and actually just do my first lesson using virtual reality. Now dad's already got his birthday wish because Cortana, my digital assistant, sorted out his birthday wish for him which is cool. Then maybe what I think to do is I might head in to school now. A self-driving car comes and picks me up and avoids all the crashes or any traffic. While I'm going to school I'm getting a little health check-up from my digital health care assistant. When I come home from school, the vitamins have been drone-delivered to my house.

You can see where I'm going here. The world is going to be so different in 20 years.

If when I was 15 in 1999, we had one phone in the house and we had one personal computer in the house, think of how much technology in particular artificial intelligence is going to change our lives in the next 20 years. It's going to fundamentally affect the healthcare sector, cars, how we buy things, how we clean our environment, how we communicate with each other and how we work.

3.0 what is ai for good?

We can use artificial intelligence for great good. We can be healthier, happier, better connected. We can be safer. We can live in a cleaner environment. There are so many different ways that we can apply this great technology to make a difference.

Now, in this module, we're going to start to think about the positive effects of artificial intelligence. The AI for Good challenge will see you build out what you think is a cool solution. Maybe in 20 years time, people are using your idea to live a better life or to live in a better world.

Good luck.

[00:03:53]

[END OF AUDIO]

3.1 what is ai for good?

Emily: We're just going to do a check in right here. How are you feeling after all that research around AI in the news? You could be absolutely terrified and thinking, "Oh my gosh, AI is going to take over the world and invade everything." Or you could be feeling really hopeful that, "Hey, AI can be some really great solutions to our world and make it a better place." Well, we've got some really good news for you.

AI for Good is not just the name of our challenge. It is actually something that Microsoft has been doing. They've been targeting three key areas. AI for accessibility, AI for Earth and AI for humanitarian action. AI for accessibility is around inclusiveness and being fair and accessible to all. This area is something we explored around seeing AI. Hopefully you've had a go at playing around with that app. AI for the Earth, we're going to throw to a video and let Common share an example of how AI is helping our farmers.

Common: Right now Artificial Intelligence helps us meet the needs of today so we're prepared for tomorrow.

Ros Harvey, The Yield: By 2050, we need to produce 60% more food. How are we going to feed the world without breaking the planet? Using Microsoft Artificial Intelligence, we can reduce waste and produce more food. Any grower will tell you. Every row, every crop is different. We can use Microsoft AI to make local predictions about light, wind, rain. This helps farmers know when to plant, irrigate and harvest. It's making a difference.

Common: Artificial Intelligence help farmers grow more while wasting less.

3.1 what is ai for good?

Emily: That was a pretty cool video showing what AI can do to help farmers. It also can help our natural environment, the animals and our wonderful Earth. In AI for humanitarian, it's helping people. It's helping people who are in poverty, helping people through natural disasters and things like that. We'll check out our video right now to see what else is happening in that sphere.

[music]

Marlene: Human rights situation often deteriorate very quickly. The faster we can get the information and we can react to the situation, it can be a real game changer.

Zeid: New technologies are advancing so rapidly. Technology companies can advise us on how best to use those technologies to protect and promote human rights.

Bai: Our objective is automatic damage mapping because after the disaster, the government need the damage map to carry out to the effective rescue. If we can save the time to grasp the ground damage information, we are able to save a lot of life and the facilities.

Speaker: In a new partnership with the World Bank, United Nations and tech industry partners will be better able to predict when and where famine will occur.

Dr Ruben: Operation Smile's vision really syncs in with what I feel is a fundamental human right.

Speaker: What the volunteers do for the children may seem like a small thing, but they are able to change the lives of the families forever.

Michael: We're creating a chatbot based experience for refugees coming out of the Syria conflict. Purpose is to have displaced youth find a way to discover and access learning materials so you can engage directly the course content.

Dr Ruben: It's just the beginning of the impact that we hope to have with the tools at our disposal.

[music]

Emily: That shows the potential for AI for humanity to help people through the most toughest of time. We have some really, really great news that we would love to share with you. Go and check out the AI for Good part of the website. We all have it in the links. Just see what other opportunities that you could be involved with. There's areas like being citizen scientists doing a bio Blitz and things like that. There's plenty of possibility and plenty of hope.

[00:05:05]

[END OF AUDIO]

3.2 find your passion.

Aaron: In the AI for Good challenge, you're going to need to choose one of three areas that you're going to develop an AI solution for. You can choose accessibility, and that is making the world more inclusive. You can choose to solve in the environmental challenges that we see in the world, making the world healthier and cleaner. You can also look at social challenges, this is humans, so this poverty and also issues of health and education.

How do you pick? Because I can assure you if you pick an area that you're really passionate about, I guarantee you that your solution is going to be more powerful.

So, my own story, I wanted to make a difference for people living in challenging situations and I wanted to do that by working for the United Nations. That's what I was dreaming about when I was in high school. I actually joined the military, and I joined in 2001, and in September 2001 there was a horrible incident that happened in New York and Washington called 9/11.

The world went to war after that incident and I went to war too. I saw the front lines of hardship and challenge and war as an 18-year-old, and out of that, I had this huge passion to make a difference particularly for some of the world's poorest people. I co-founded a nonprofit called ygap, and for the last 10 years, we have been helping people living in poverty change their lives.

Emily, your other trainer, well she's super passionate about the environment and she's dedicated the last 10 years of her life to cleaning up cities and making a difference for the world and educating people about climate change.

My friend Jody, he runs a really great organisation in Sydney that is all about inclusion. His brother had a severe disability and he helps people with disabilities as well thrive in society. He's in meeting the Queen, is doing awesome stuff. How do you decide? Well, one way to decide is you might have a lived experience of a challenge. If you're a surfer, for example, you might be really passionate about the ocean, and in particular, about the reefs that you see changing around you, or how dirty beaches are nowadays.

The second thing other than lived experience is think of things that move you, it's a little bit embarrassing, but they make you cry. They move your emotions. Think of maybe your grandma who's sick, but she's lonely or she's in pain and you think, "I really want to help her. I want to help the friends of hers that I've met as well." If all else fails, if you cannot find that lived experience that you're really passionate about, or perhaps something that really moves you emotionally, jump on a news website. Go on to CNN or BBC or a new site a little closer to home, and just start seeing what's happening in the news right now.

3.2 find your passion.

Something will jump out, you will be moved to act on a challenge that you see. It should move you. You should really care. Then, remember, the AI for Good challenge, you have to come out with an AI solution in teams of two to three students. You've got to find other people who care about this challenge like you do. That's going to be interesting with that team dynamic. A word of warning. If you do find this passion, be careful, it might just change your life.

[00:03:50]

[END OF AUDIO]

4.0 kickstarting the challenge!

Emily: Congratulations! You have made it to module four. Welcome to the AI for Good challenge. This is the really super exciting part where we're going to step you through from the problem to solution to submitting your great design. AI is one of the most important advancements in our time and rather than just sitting back and watching it, we want you guys to be involved - you to be part of the solution and we can't wait to see what you come up with. Let's get to the details.

Who? We're talking about teams of two to three high school students in Australia. What? We want to see an innovation that is world changing solutions that utilise AI. AI for accessibility, AI for Earth so, around environmental solutions, AI for humanitarian action solutions. How are we going to do this? Don't worry, I'm going to step you through the whole design thinking process. That's what the whole module is going to be about.

What we're looking for is from the problem recognising, understanding it, the audience that you're helping or the community that you're helping, how it's going to create impact, what AI you're going to be using, how to create a prototype to showcase your solution. Also most importantly, your ethic statement. How are you making sure that it meets all these different principles around AI? We're using the Microsoft AI principles for this area.

Next, check out the criteria. Each one is out of 3. We're going to be looking at innovation firstly. How is your idea original? Part two, buildability. We want awesome ideas, but we also have to check out to see if it is possible. Part three, potential for impact. We want these solutions to create some form of positive impact and that's all we're going to be checking out on part three. Part four, presentation idea. Does it give it a wow factor? Is it engaging? This will be really, really crucial because we're going to be checking out hundreds and hundreds of submissions, make yours give us the wow factor.

4.0 kickstarting the challenge!

Last thing the ethical score. Does it meet those Microsoft AI Principles? Make sure you really check through each area. How are we going to do this besides the module? We have awesome hackathons in all cities around Australia. Check it out for your dates. I hope you can make it to one, but if you don't, no worries, there's heaps of support and resources available online.

Some key dates we're going to be listing. The most important ones are the challenge opens on the 23rd of April. You have until the 21st of June. That's going to be the last day that you can submit. Make sure you get it in because we can't wait for it. We're really looking forward to seeing your submissions, we wish you all the best of luck. Thank you for joining us for the AI for Good challenge.

[00:03:28]

[END OF AUDIO]

4.1 understanding the problem.

Aaron: By now, in the AI for Good challenge, you've found your team, you've found that problem that you're all passionate about. It might be the Barrier Reef is being destroyed or there's lots of people living in elderly people's homes who are lonely right now or refugees who are arriving in Australia and they're struggling to find a job or...there's lots and lots of different problems that you can be working on.

You've selected the one that you want to work on by now. When you think about that challenge and that problem, there are many, many reasons why it keeps happening. You need to actually dig down to understand as many of those reasons as you can. Let's say, for example, your problem is, there's lots of plastics in the oceans and it's killing marine life and it sucks. Why is that happening? There's lots of reasons why that's happening.

It could be because when takeaway restaurants give their food, they give it in plastic containers. It could be because there's not enough bins at the beach and everyone eats their food and then rubbish just flies away or maybe the bins are overflowing, so we would do try to do the right thing, but it goes out. Maybe the birds come in and take the rubbish away because they like what's inside and then they're putting the plastics into the ocean that way. Maybe when people are on their boats and they're having a good time, the plastic flies away as well. They just feel like no one's looking, so they'd dump it into the ocean.

There's probably 500 reasons why there's lots of plastic in the ocean and your job is to try to understand a whole bunch of them. You can't solve all of them. There's no way. It's not possible, but you can solve perhaps one of them.

4.1 understanding the problem.

In this module, it's all about spending a whole bunch of time digging in to understand your problem, understand all the reasons why it keeps happening so that when we move into your solution, it's going to be really powerful because we're focused on a specific part of the problem, so our AI solution that we build, it's going to be awesome because we understand the problem that we're trying to solve.

[00:02:17]

[END OF AUDIO]

4.2 coming up with solutions.

Aaron: We are now at the part of the AI for Good Challenge where we actually innovate the solutions to the challenges we've identified. It's getting really, really exciting here. Sometimes you can fall into the trap at this point of thinking like, "Here's the problem, here's my solution. I've got it. I'm going to submit my AI for Good submission tomorrow. We're going to win this competition nationally. It's going to be awesome." I often say when I'm working with ideas and trying to solve problems, "First idea, worst idea."

We're going to try to get you to come up with lots and lots of solutions to the challenge you've identified. In this module, we've got loads of different ways that you can do this; through hackathons and ways to innovate and I absolutely think you can get 30 or 50 or 100 solutions to a challenge. I'll give you just the first little set of tools to help you innovate with this. We call them our ideation rules and there's five of them. The first is, we're going to encourage you to come up with a quantity of ideas. Like I said, about 100 ideas or 50, if that's all you can do.

The reason why I encourage quantitative ideas is because there's actually been some research done on inventors, they are from a group called IDEO and they work in San Francisco. They've invented all these cool things like the modern day can opener, all sorts of things. They found that when they watched these inventors, when they come up with 100 solutions, idea, one to ideas 60, they didn't get much. Idea 61 to idea 80, it's gets kind of crazy. From idea 81 to 100 on average, the seven best ideas are coming in that final 20%. Push for a quantitative idea. That's rule number one.

Rule number two, is encourage ridiculous ideas. If you're trying to solve the fact that the Barrier Reef is being destroyed or that refugees are coming to Australia and struggling to fit in, you're doing this with artificial intelligence but get crazy, get ridiculous. Everything is possible here.

4.2 coming up with solutions.

Rule number three, is we use the language, yes, and. If you've got an idea that you're playing with, you should be saying, "Yes, and we could do this. Yes, and we could do that." You're building on the idea, it gets better and better as you go.

The fourth rule that we have in our ideation rules is the word, "we". If I'm throwing an idea out there and Emily doesn't like my idea, rather than jumping on me and saying, "That idea is too expensive, Aaron" or "it'll never work" or "there's no artificial intelligence capacity in the world for that right now." We should use the word, "we" and say, "Aaron, we need to think about a way that we can use the cognitive skills that the Microsoft artificial intelligence has to achieve that goal." Using the word, "we" is really welcoming and it helps us all work together.

The final rule, number five is, every idea is a good idea. It's all good. When you're trying to get to 50 solutions to the challenge you've identified, we encourage you just get them down. Every idea is a good idea. Don't pull people down. Don't say, "That will never work or that'll take too much time or that's too confusing." Just say, "Every idea is good" and get it down.

At some point, we'll be selecting the best ideas but right now, we're just trying to get as many as possible. In this module, there's lots of ways that you can innovate, lots of ideas. That's just five initial rules that we can help you with innovate, innovate, innovate, and come up with as many solutions as you can to the challenge you've identified. This can take place over days or even over weeks.

Good luck.

[00:03:44]

[END OF AUDIO]

4.3 picking and improving ideas.

Aaron: If you've innovated hundred solutions to the challenge you've identified, how do you pick the best solution? This is one of the more important points to the AI for good challenge is saying that's our best and that's the one we're going to take, submit, and hopefully make it to the state finals, and hopefully get to the nationals, and win the national finals. The challenge is that if you are pushing for a 50 to 100 solutions, not everyone is good. There's some absolute goal in there, but there's a lot of stuff that we need to push away. How do you choose your best idea at this point?

4.3 picking and improving ideas.

Well, some criteria might help, but which is, does it solve the problem? Which of those solutions solves the problem the best? Is it ethical? We talk a lot about the ethics of artificial intelligence and do a quick check on whether this is ethical. Do you think it could actually work in the real world? If you're thinking, would someone use this bit of technology or this solution to make their world better or their lives better, or make their world more inclusive for other people?

Really importantly, are you excited by it? Does it get you excited like, "Wow, what if we invented this? It would make such a difference! It would help so many people or help the world in so many ways!" It should get you buzzed as well. As a team, two or three of you and your AI for good challenge team, you're going to have some arguments here. You're going to feel really strongly about some and not as strongly about other ones that other members your team like. You're going to have to duke it out and figure out what's going to win here.

Once you find that solution, we encourage you not to say, "I've got it, I'm submitting, we're going to win this, this is going to be awesome!" This is now a good chance, and this is what the winning teams will do, and I hope you're one of them. They will take the time, at this point to make their idea even better.

On this module, we actually teach you some skills around something called prototyping. Where you prototype an idea, you build a little example of it, and you start to show it to people, and they give you feedback. We'll talk you through how that works. You might want to check in with the criteria, the different judging criteria. In this module, we'll show you what our judging criteria is so you can make sure, we're a little weak there but we can innovate a bit more and improve our offering on that judging criteria.

Again, checking whether it's ethical and meeting those ethical principles and we'll talk a bit more about that in later modules. Also innovating again, using all the innovation rules that we taught you from last time, to make the idea even better. You have a lot of ideas to the problem that you'd identified. At some point, you have to pick what you think is your favourite idea and then use a whole bunch of ways that we'll teach you in this module to make that idea even better.

By the time, you're pressing click on that submit button, the idea that you're presenting, your AI for good solution is going to be as powerful as you can possibly make it.

[00:03:20]

[END OF AUDIO]

4.4 ethics check in.

Emily: Let's get to the ethics statement because without ethics, who know what your AI might get up to and it's also could be AI for Good challenge. We're going to be looking at the six parts of the Microsoft AI principles.

Firstly, is fairness. Is your solution fair? Secondly, inclusiveness. Does it include all people. People from all walks of life? Thirdly, reliability and safety. Is it reliable, can we trust it, is it safe? Fourthly, transparency. Is it clear and easy to understand the intentions behind the technology? Fifthly, privacy and security. Is it secure and does it respect people's privacy? Sixthly, and the final one, is accountability. Is it responsible? What we want in an ethics statement is we're looking for something that straightforward, honest and unbiased about how your prototype basically checks off each of those six areas.

[00:01:16]

[END OF AUDIO]

4.5 your submission.

Emily: Welcome to the submission page. Congratulations on making it to the final part of the AI for Good challenge! We really encourage you to check through the guidelines before you press submit. The competition closes on the 21st of June but make sure you attach your attachments, really crucial things like that before you press submit.

Now, what happens after this? We'll be shortlisting teams to represent the years 7s to 9s and years 10s to 12s at a state final. At the state final, there'll be judges, you'll be learning how to pitch and there'll be really cool prizes. If you get through the national finals, this is happening in Sydney on the 16th of August. This brings us to the end of this part of the AI for Good Challenge.

We wish you all the best and on behalf of Microsoft and Education Changemakers, we'd like to thank you for being part of the innovative world changing solution utilising artificial intelligence.

Thank you and good luck!

[00:01:20]

[END OF AUDIO]

