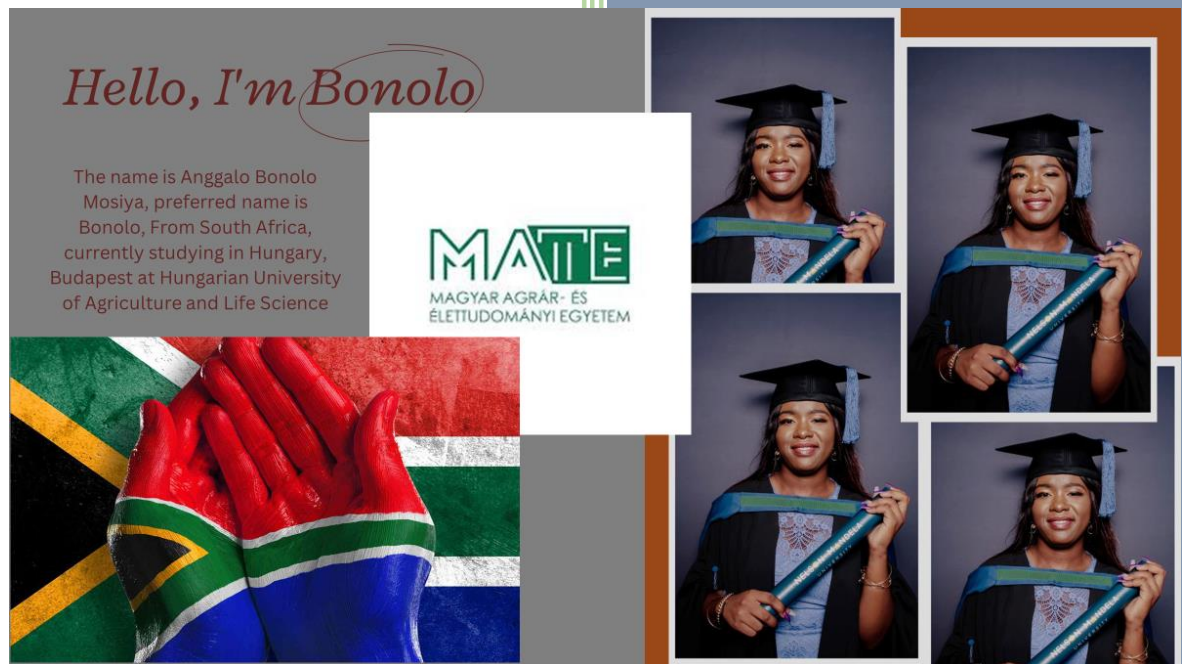


2023

# AI AND ROBOTICS FOR DISABLED PEOPLE



Anggalo Bonolo Mosiya  
Hungarian University of Agriculture and  
Life Sciences  
BSc Food Engineering

## ONBOARDING WEEKS

### **Who am I and why have I registered for an ILL?**

The name is Anggalo Bonolo Mosiya, preferred name is Bonolo, From South Africa, currently studying in Hungary, Budapest at Hungarian University of Agriculture and Life Science. In all honesty the main motive behind choosing ILL is for credits. But after the Kick off session, I realized it will be a rather welcome challenge.

### **What is my field of study?**

I am studying BSc in Food Engineering

### **What do I plan to do after finishing my studies?**

I am currently in between plans. It is between applying to do my Masters or take a break from Full time studies and work for a few years before going back to school.

### **Who/What motivates me?**

I have always been my own motivation.

### **What do I do in my free time? / What am I passionate about?**

Being an international student, I barely have free time, between school and work. But when I am free, I enjoy just being by myself relaxing or going for a walk.

### **What are my strengths?**

From previous experience i have enhanced my analytical and problem-solving skills which happens to be where most my strength lies. As mentioned, I am self-motivated, and this requires one to have a very strong discipline.

### **What do I already know about the challenge topic (when/where/how did I first encounter it)?**

I do not know anything yet about my challenge topic.

### **How was the Kick Off & 1. Onboarding Week for me?**

The Kick off and onboarding were okay for me, just general information to kick starts the ILL program. And some insight from previous students, which was helpful in knowing what can be expected of me and my group in a nutshell.

### **Who is my reflection partner?**

At the time this checklist was performed, Reflection partners have not been discussed.

### **How did self-assessment on Future Skills go?**

The assessment went great, I got to learn about different skills and even was able to identify some that I relate to

### **Which 3 Future Skills have I chosen & why?**

**Innovation** - I am a good problem solver using existing techniques, but I would like to be able to come up with several ideas and creative solutions to challenges.

**Reflective competence** - I am not good with making reflections on other people's work but my own, which normally leading to me just comparing my work to that of their own instead of doing an independent reflection

**Communication** - as an aspiring project manager, having an effective and excellent competence in communication is a must have skill, because i need to be able to inspire, persuade and communicate very well with my team.

**My current level & my goal level by the End of this ILL for each chosen Future Skill**

On a scale of 1 to 5, 1 being Extremely Lacking and 5 being Excelling.

Where I am –

Where I want to be

	1	2	3	4	5
Innovation					
RC					
Communication					

**What have I found out in my desktop research?**

**What will I focus on next week?**

Learning about my challenge topic

**REFLECTION**

I was a bit overwhelmed about the whole program, almost deregistered because I thought it was going to be too much, but after meeting the team I have some hope. I am hoping that this will be a great journey. Challenging but great. I am hoping I will be able to develop the future skills I chose.

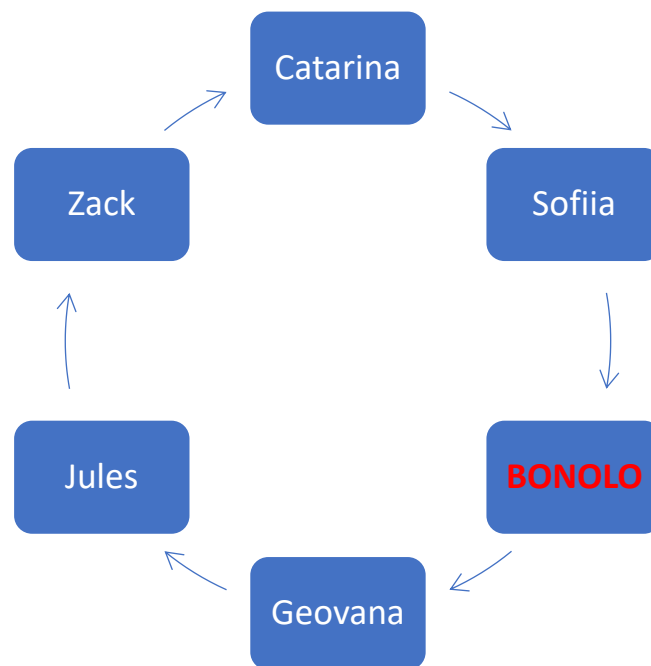
## SESSION 1

### How was the 2. Onboarding Week for me? How did we as a Team begin?

It was great since we got to know each other as a group, learn about the skills required for the success of the project/challenge we have. The group got the opportunity to discuss rules and come up with some ideas as to what specific theme are we considering and this was done in a separate Zoom room without the EEs, giving us a way to see how we function as a group without supervision which was a great success.

### Who is my new reflection partner?

Our team is doing a chain reflection.



### Which skills, knowledge, strengths will help me with the DT Process?

1. Empathy: The ability to understand and relate to the needs, desires, and challenges of the users for whom you are designing.
2. Observational skills: The ability to observe and notice details, patterns, and insights that can inform your design.
3. Creative thinking: The ability to generate a range of diverse and innovative ideas and solutions.
4. Analytical skills: The ability to analyse data and information, identify problems and opportunities, and develop insights to inform your design.
5. Collaboration and teamwork: The ability to work effectively with others, share ideas, and build on each other's strengths.
6. Communication skills: The ability to clearly and effectively communicate ideas, concepts, and designs to others.
7. Knowledge of design principles: A solid understanding of design principles, such as user-centred design, visual design, and interaction design.

8. Flexibility and adaptability: The ability to be flexible and adapt your approach as needed, based on feedback and new insights.
9. Persistence: The ability to persist and iterate through multiple rounds of design and testing to arrive at the best possible solution.

By leveraging these skills, knowledge, and strengths, I can effectively navigate the design thinking process and create innovative solutions that meet the needs of users.

#### **What did I learn?**

Design thinking, group dependency.

#### **What surprised me?**

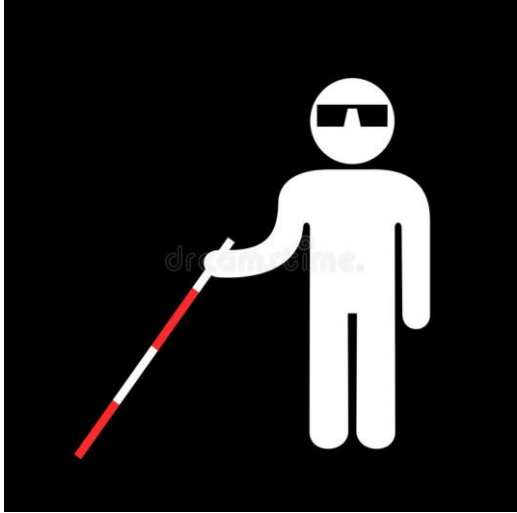
How easy it is to participate in the group.


#### **My sparkling moment**

The ease at which I was able to participate in group discussions. Seeing that I can take lead without being asked to.

#### **What have I found out in my desktop research?**

I searched about different disabilities that people around the world suffers from, some of the disabilities I concentrated on are the following as they were the main options that the group had in mind to choose from.

	<ul style="list-style-type: none"><li>• <u>Vision impairment</u> - When someone has impaired vision, it means that their eyesight cannot be improved to a "normal" level with corrective lenses or surgery. Loss of visual acuity, in which the eye does not see objects as clearly as it normally does, is one of the potential causes of vision impairment. Some people are born with a visual problem known as congenital impairment of vision (present from birth), while others have a degenerative eye condition that can lead to blindness or a condition that was acquired by trauma, such as an accident or a brain injury.</li></ul>
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	<ul style="list-style-type: none"> <li>• <b>Hearing impairment</b> - A person is said to have hearing loss if they are unable to hear as well as someone who has normal hearing, which is defined as having hearing thresholds of 20 dB or better in both ears. Normal hearing allows a person to hear sounds with equal clarity in both ears. It can range from mild to moderate to fairly severe to severe to profound, and it can affect one ear or both ears.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Autism</b> - autism spectrum disorder, also known as ASD, is a form of developmental disability that is brought on by changes in the brain. Individuals who have autism spectrum disorder (ASD) frequently struggle with social communication and engagement, as well as restricted or repetitive interests or actions. Individuals who have autism spectrum disorder (ASD) may also have unique learning, movement, or attention styles.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>People of short stature</b> - People in the United States frequently use the terms "person of low stature," "little person," and "dwarf" to refer to a person who has a medical condition known as "dwarfism." Dwarfism is a condition in which a person's skeletal growth is significantly slower than average. It may have a hereditary component. There are around one hundred various disorders that can lead to short stature. One of the most frequent types of short-limbed dwarfism is called achondroplasia. Most children who are born with achondroplasia have parents of average size.</li> </ul>



- **Mutism** - A child or adult with selective mutism does not refuse or choose not to speak at certain times, they're literally unable to speak. The expectation to talk to certain people triggers a freeze response with feelings of anxiety and panic, and talking is impossible.

### What will I focus on next week?

I will be putting focus in doing research for the target group that me and my group will choose for our theme. This is because I want to be able to contribute more to the project.

### General REFLECTION

The group is amazingly easy going and our EEs makes it easy for us to enjoy the journey/experience the ILL is giving us. I see a fantastic opportunity for both career skills and personal development growth. Looking at the future skills I chose, I have I am doing better with communication

## SESSION 2

### **How was the 1. ILL Week for me?**

It was a great week with the team, everyone participated in the meeting, and it went to show how fantastic and great the group work together.

### **What did I learn while reading other Portfolios?**

I learned that I need to be more elaborate in my portfolio, though that is a bit difficult for me as I am not an expressive person. I also learnt that everyone is different in how they express themselves through their work. I discovered way to revamp my own portfolio to make it more creative and comprehensive.

### **What did I learn?**

I learnt more about what assertive technology do some disabled people use to aid them in everyday life.

#### Visual impaired

- Braille devices - Braille is a tactile code used by persons with visual impairment to read and write in any language, from English, Chinese to mathematics and music. Braille devices allows persons with visual impairment to read and produce content in Braille.
- Electronic magnifiers - capture images with a camera, enlarge them on a screen and enhance the visibility, for example, by adjusting colours and contrast. This helps persons with low vision read text. Some magnifiers may include additional features, such as Optical Character Recognition (OCR), which scans printed words and reads the text aloud.
- Screen readers - are software that convert the text on a screen into Braille or synthetic speech. Screen readers are particularly helpful to persons with visual impairment who do not know Braille. There are two major screen readers for computers: an open-source software called NonVisual Desktop Access (NVDA) and a paid software called Job Access With Speech (JAWS). Smart phones consist of accessibility features which includes screen reader such as TalkBack on Android and VoiceOver on iOS.
- White canes - allow persons with visual impairment to travel independently. They can be classified into three types:

Long canes which are used to slide on the ground and probe obstacles to provide information on the path ahead.

Identification (ID) canes can also be used to probe ahead, but its main purpose is to inform the public that the user has visual impairment.

Support canes are similar to ID canes but are designed more for stability to aid the user in walking.

- Service Dogs - are dogs that are trained to help their owner with a specific disability. For example, dogs can be trained to pick things up, visually guide those with visual



impairments, remind you to take medication, or help those with poor balance. Service dogs can go to public places with their owners, even places that dogs are not usually allowed to go like airplanes or restaurants.

### Hearing impairment

- Assistive listening devices - There are five general types of assistive listening devices: audio induction (also called a hearing) loop, FM system, infrared system, personal amplified system, and Bluetooth systems. The right device for you can depend on your hearing loss and where you need communication access.
- Alerting devices - Alerting devices use a loud tone, flashing lights, or vibrations to alert people with hearing loss to various environmental sounds. These devices may also be called signallers or notification devices.
- Apps - Speech-to-text apps can be useful for short, casual interactions, such as ordering food in a restaurant or getting help in a retail store.

### Autistic

- Some of the best assistive technology devices for people with autism include calming devices like weighted blankets and sensory pillows. Communication devices like communication boards, single message, or sequential message communicators, and learning devices like tablets, smartphones, etc.

### People of short stature

- Stools — Individuals can use stools to help them get into bed, turn off lights, and reach cabinets. These are tasks that would be quite difficult without this simple but effective assistive support. Stools are also economical.
- Scooters and bicycles — Kids who deal with dwarfism might struggle with feelings of frustration over not being able to keep up with friends. For some children, bicycles and scooters are the perfect assistive solution for getting around easier.
- Furniture — Did you know that you can buy furniture specially made for individuals who have a short stature? Find out more at <http://www.littlenest.com/http://www.lpbigdesign.com/>.
- Adaptive vehicles — Adults can experience freedom of mobility with adaptive automobiles and accessories, such as brake pedals and steering wheels.

### Mutism

- What app do mute people use to speak? If a person is unable to speak, the simplest way to communicate with others is by using text-to-speech software. One of the most popular options is Speechify, which is an app based on OCR. It's easy to use, and the quality is exceptional.

### **What surprised me?**

How well the group works together. This is very rare to find amongst students especially ones that are from different universities and doing different courses. It's really a surprise how each one of us respect each other's opinions and ideas and don't dismiss anyone without even listening to them.

**What will I focus on next week?**

As the group has chosen a target group for the challenge, which is Visual impairment disability. Making research on how visual impairment impact the people living with the disability.

**Which creative methods have I / we applied last week? How did that go?**

I will say the group used brainstorming. As we had to come to decision on what will be our target group for the challenge. We had many disabilities to choose from and thus everyone of us had to do their own research and then we had a brainstorming discussion to choose one disabled group that will be our focus. And the brainstorming went great, as mentioned above we are a very great group and working together comes very easy.

**General REFLECTION**

I have realized that I can be a good leader, as I have shown that I have good leadership skills but what I do lack is the confidence in those skills, which is something I need to work on. The ice breakers that we have before starting the meetings are so helpful in creating a good dynamic within the group. This way the group members get to learn a lot about each other, which leads to learning our strengths as a group and individuals.