



# Skills Inventor

amazon future >>  
engineer

PROJECT  
STEM

# Lesson 1: Intro to Voice AI

## LAUNCH

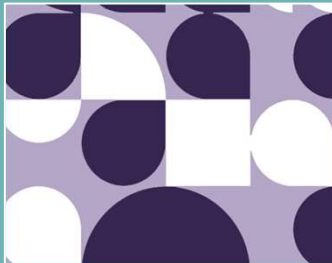
### Why AI?



What we'll cover in today's lesson.

## VIDEO

### AI Basics



AI is everywhere but how does it work? A closer look at voice AI.

## MISSION 1

### Space Facts



Let's get hands on with a real voice AI and get it to give you a fact of the day

## MISSION 2

### Targeted Facts



Level up to code a space fact generator using voice AI/

## WRAP-UP

### Reflect

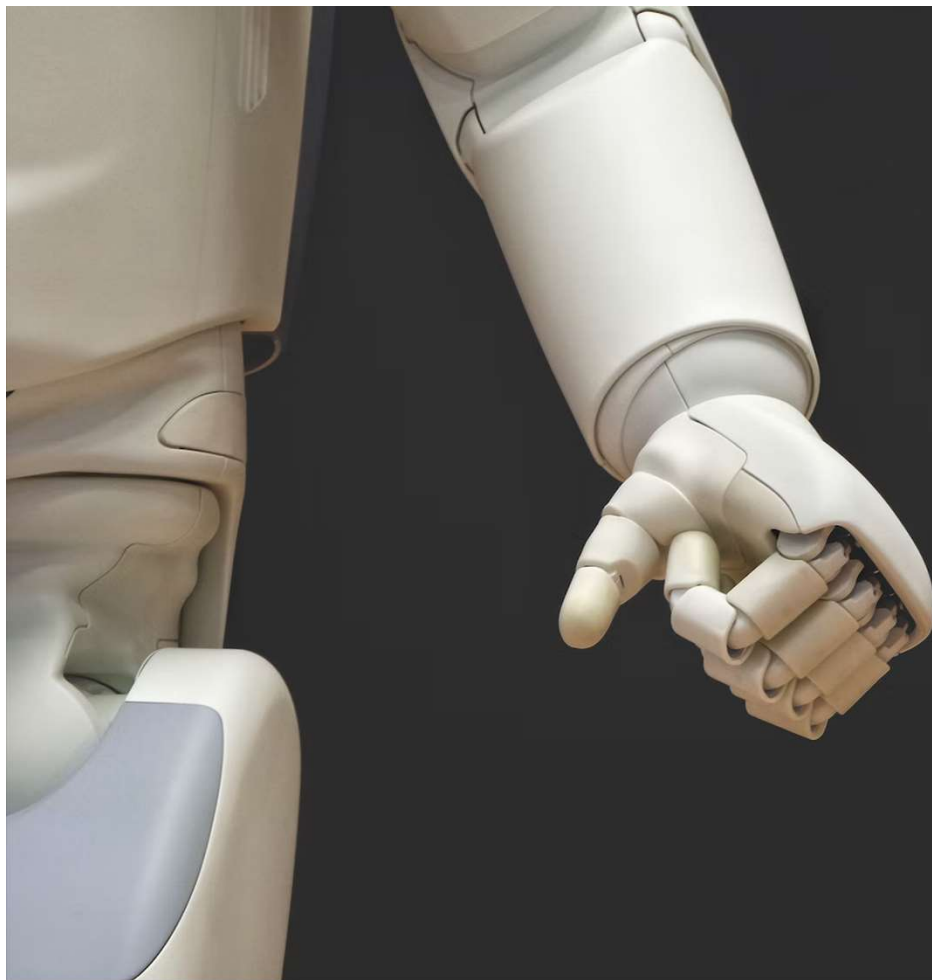


Let's reflect on the impact of AI and how it can make the world a better place

# Do Now: Let's Discuss

Who has heard of the term  
“**artificial intelligence**”  
– or AI?

What do you already know about  
“**artificial intelligence**”?

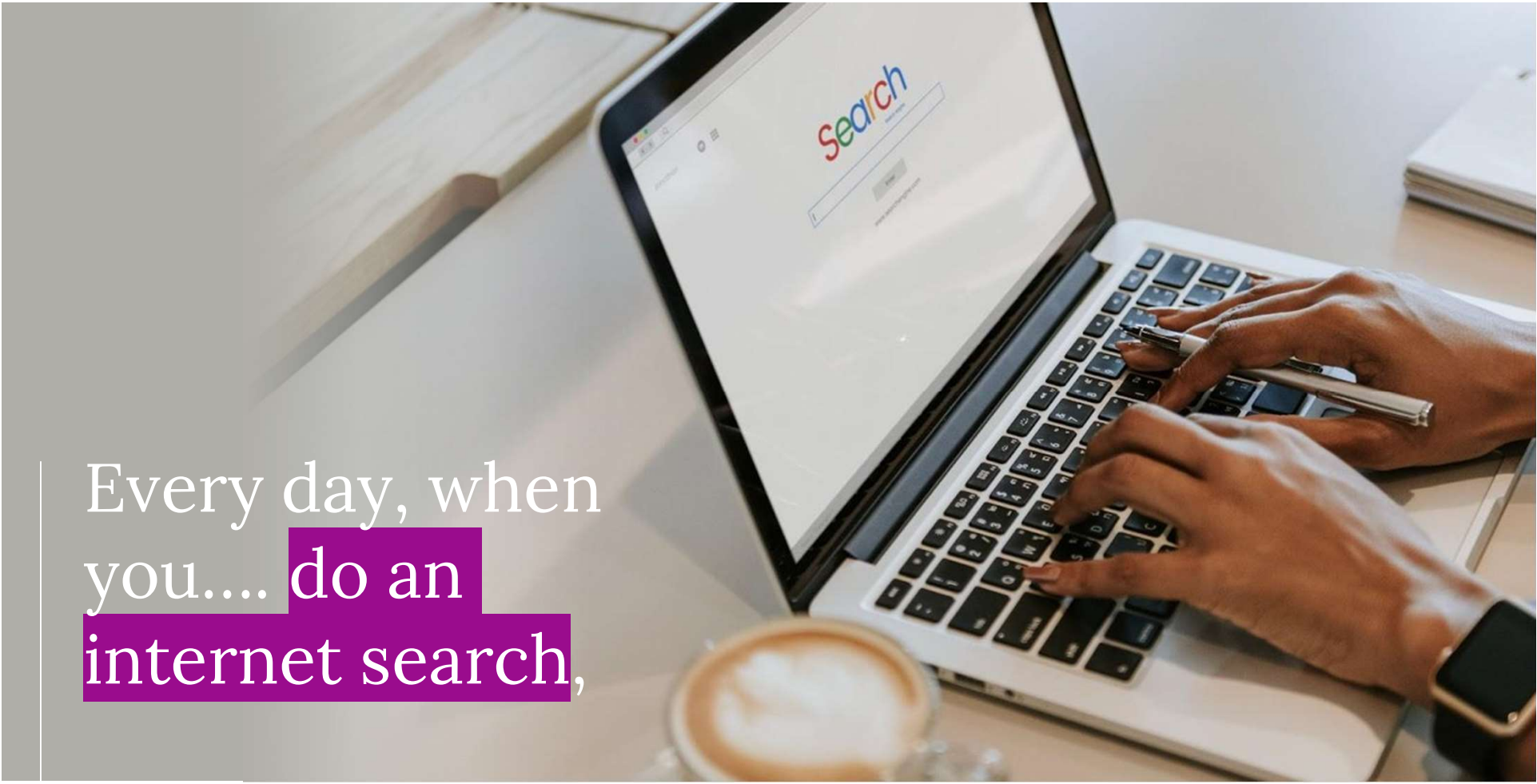


**Artificial intelligence** is the development of computer systems to perform tasks that normally require human intelligence.



All around us, AI  
is at work **helping**  
**make people's**  
**lives easier**, often  
without our even  
realizing it.



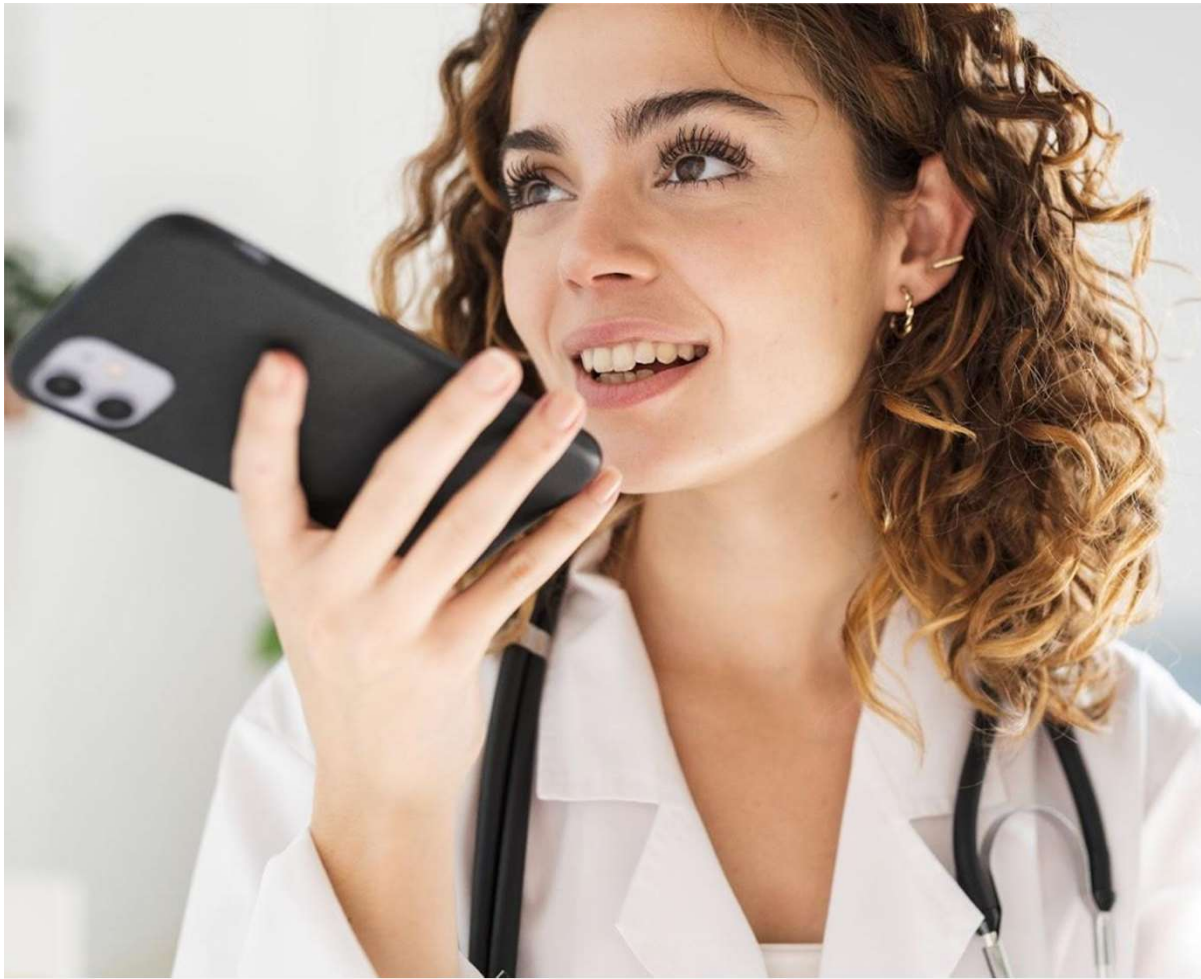


Every day, when  
you.... do an  
internet search,



or scroll  
through your  
newsfeed,





or speak into  
a phone to  
ask questions,



use facial  
recognition to  
unlock a phone,  
AI is at work.





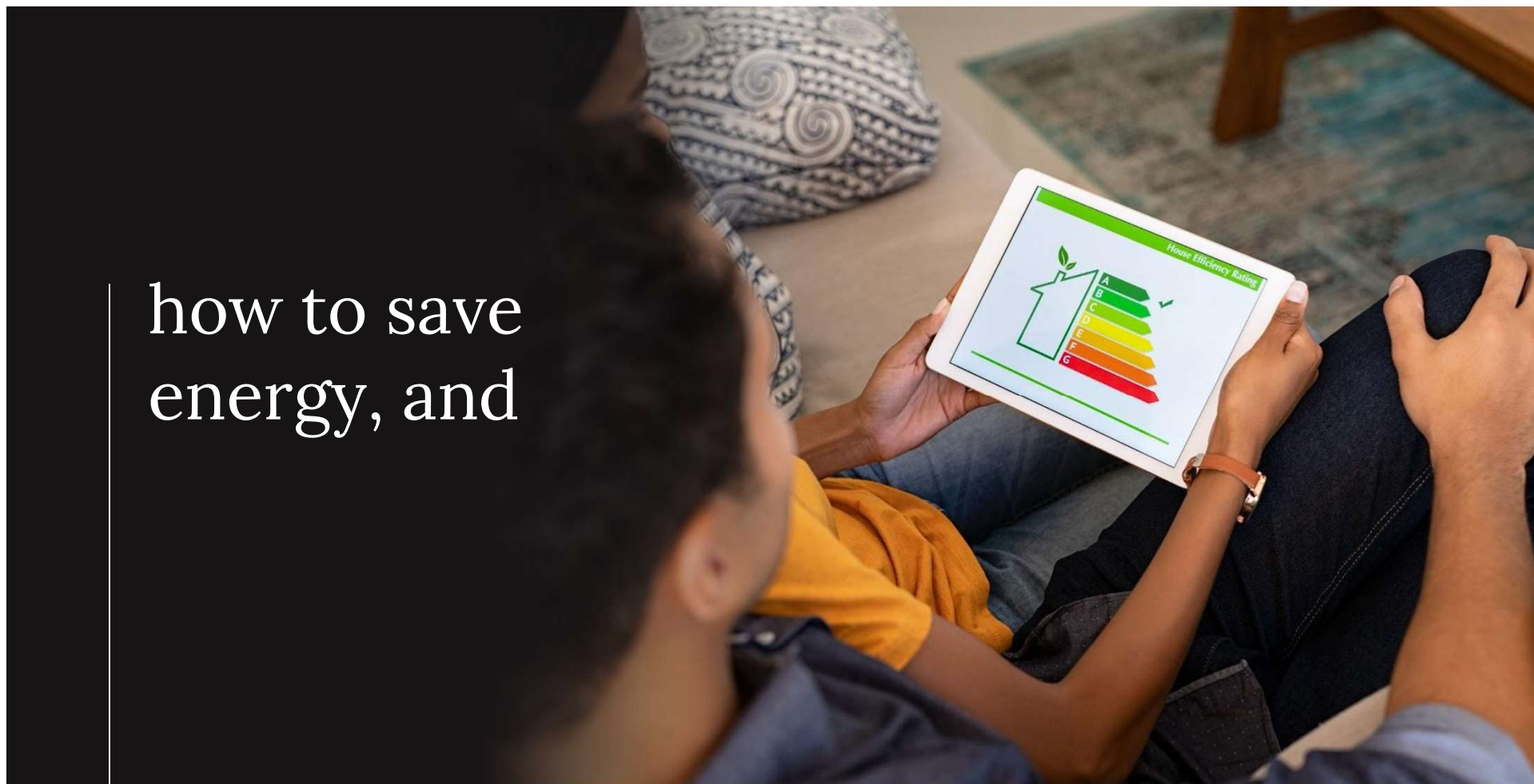
Self-driving cars use AI to recognise their surroundings, track objects, and make super important decisions like when to stop.

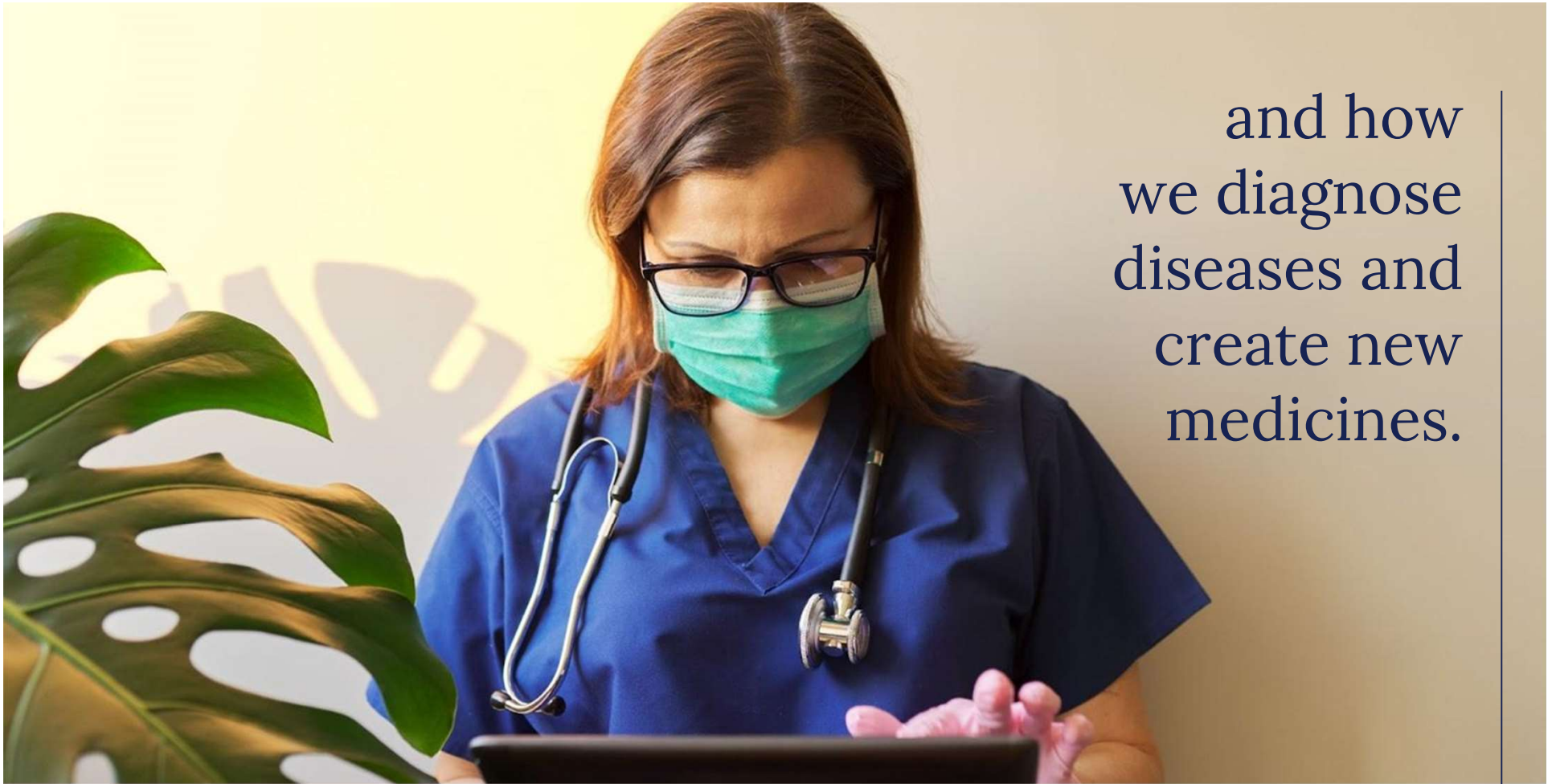


AI is helping  
improve how  
we grow food,



how to save  
energy, and





and how  
we diagnose  
diseases and  
create new  
medicines.

# Voice AI

One of the most impactful ways AI is used is through **voice AI**, through personal assistants like Alexa.

We'll explore this technology and more in today's activity.





# INTRO TO VOICE AI

# AI Basics

# Video Vocabulary

review

TIME

**voice ai**

\_\_\_\_\_ : technology that recognises human voices, interprets their meaning, and offers a response in return

**wake word**

\_\_\_\_\_ : a pre-programmed word that triggers a voice AI device

**utterance**

\_\_\_\_\_ : a question or command a user makes to a voice AI

**intent**

\_\_\_\_\_ : the desired response to a question or command made to a voice AI device.



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WRAP-UP — Future Voice of AI



# AI Basics: Voice AI

That was awesome! We are starting to explore how a voice AI like Alexa needs to be programmed with **wake words** and how **utterances** (the questions you ask) trigger an **intent** (your desired response).

WAKE WORDS	UTTERANCES Things You Might Say	INTENT Your Desired Response
"Alexa" "Amazon" "Computer" "Echo" "Ziggy"	"What time is it?"	"The time is 3:45pm"
	"What's the hour?"	
	"You got the time?"	
	"What hour is it?"	



Now, it's time  
to build our  
own **Alexa skills**  
using voice AI!





# INTRO TO VOICE AI

## Mission 1: Fast facts

# Login:



Go to:

[alexaskills.appinventor.uk](https://alexaskills.appinventor.uk)

Open Chrome.

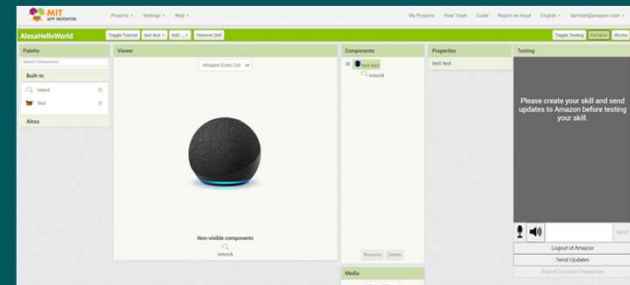


Use your card to  
login.

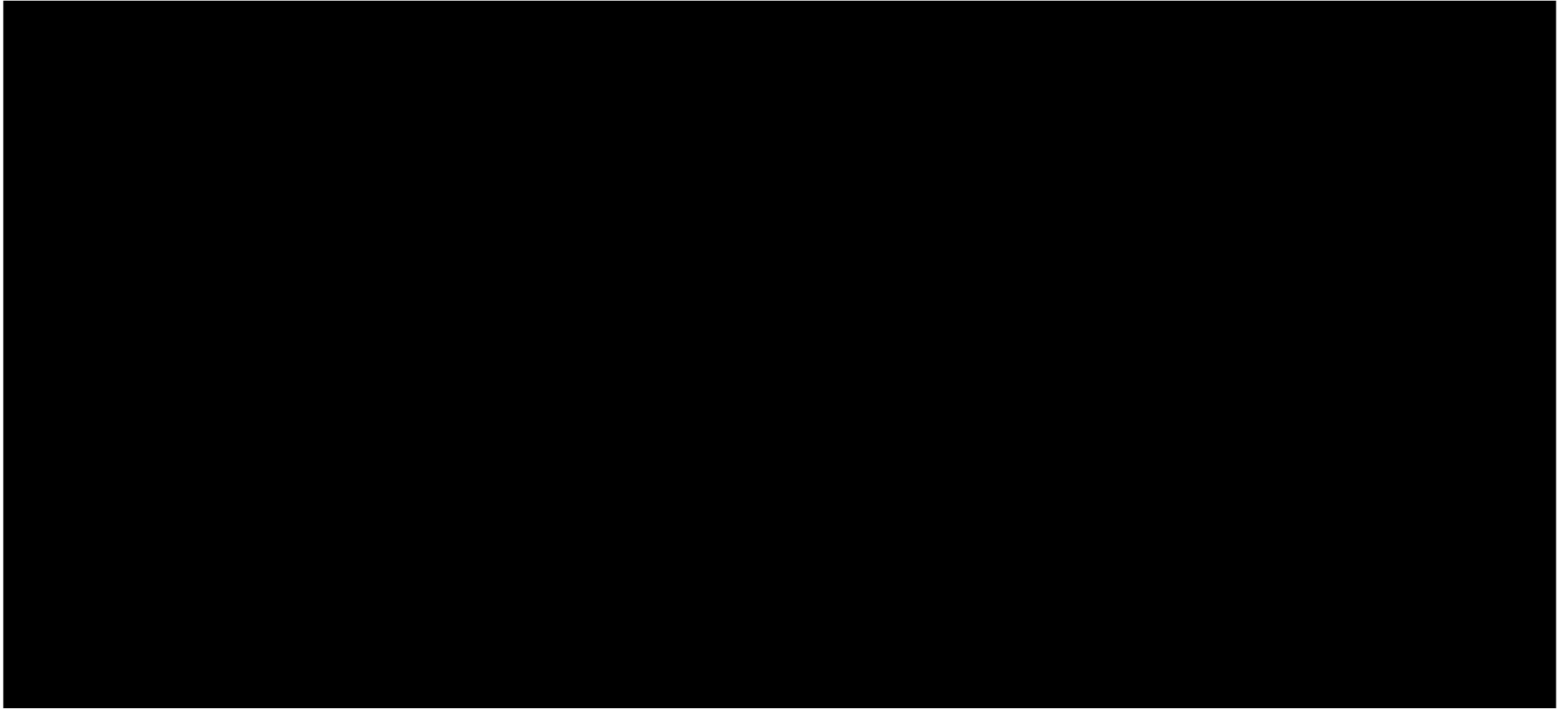
Alexa Skills!  
Your Account Information is below.

Username:	magentawrasse83
Password:	S8Qh8Rn7xc

Zoom out to 80% to  
see whole screen.







**Mission 1:** Predict what will happen, investigate and run the code

# Mission 1:

Predict, run and investigate.



- Import **starting-project.aia** (your teacher will provide you with access to this file)
- Can you ask Alexa a question that will provide you with a space fact response using the microphone?
- What question other than “Give me a fact of the day” will provoke a response?
- How many different facts could be provided by this Cosmic Question app and what could they be?



MIT APP INVENTOR

cosmic question Add Remove Skill Toggle Testing Designer Blocks

Blocks

- Built-in
  - Control
  - Voice
  - Logic
  - Math
  - Text
  - Lists
  - Dictionaries
  - Variables
  - Procedures
- cosmic question
  - day\_fact
- Any component

Viewer

Testing

Initialize global fact to make a list

- One million Earths could fit inside the Sun, whi...
- The Great Red Spot on Jupiter is a storm that ha...
- The first living creatures sent to space were fr...

when day\_fact .spoken

do say pick a random item list get global fact

Media

Upload File

Show Warnings

Your skill is ready to test

Send

Logout of Amazon

Send Updates

Report Incorrect Response

Programmed Utterances

"Alexa, tell cosmic question to..."

Intent: day\_fact

- Give me a fact of the day
- Give me a fact about space

**Mission 1:** Modify the existing code to extend the number of responses

# Mission 1:

Modify.



Extend your code so that Alexa chooses from a larger list of potential space facts

Research some space facts online

In the block code editor, extend the size of the list

Ensure that a new list item is created as a string with another space fact

Don't forget to click the Send Updates

Logout of Amazon
Send Updates
Report Incorrect Response

Test the skill with your new response(s) (of course it may take a number of tries as it will be randomly selected)

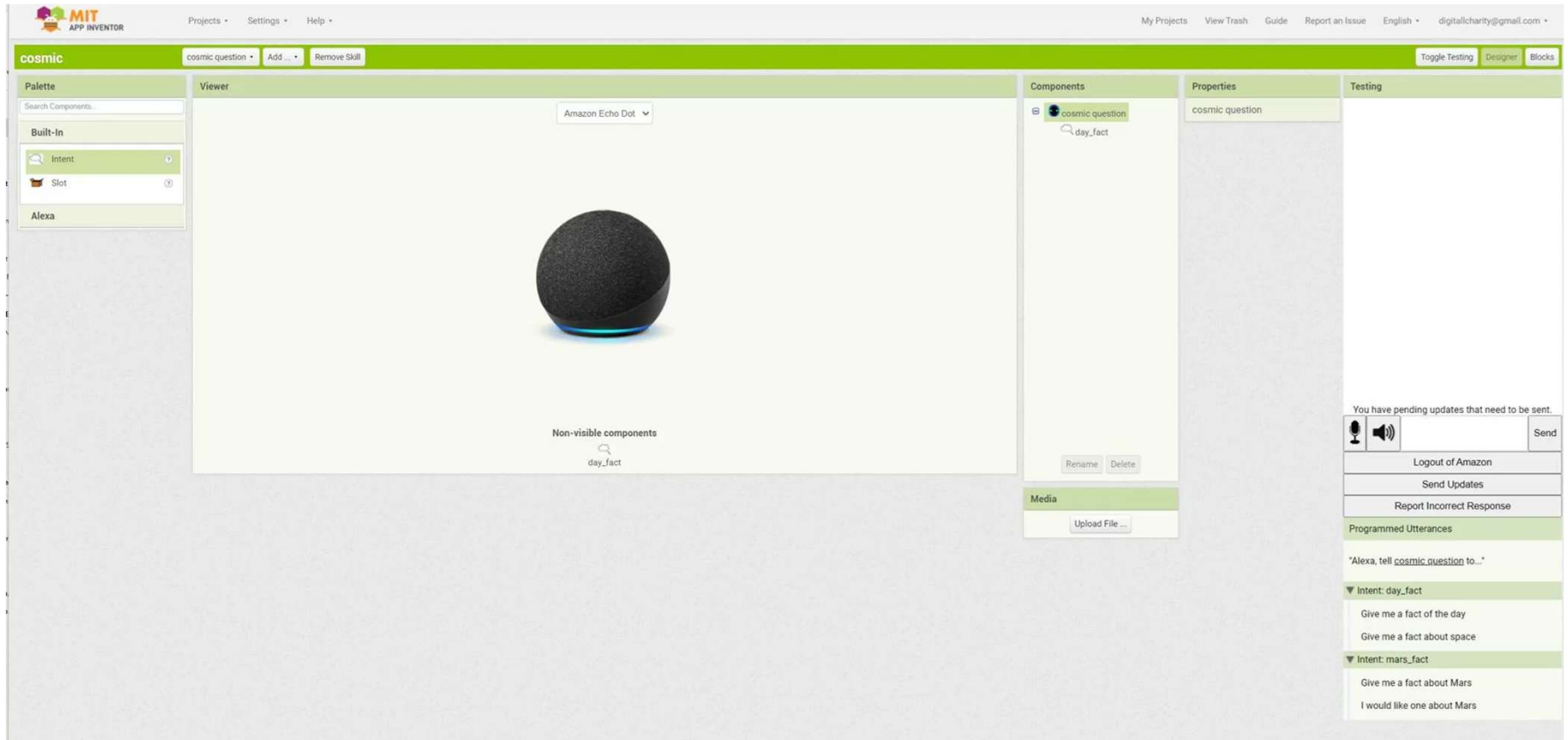


Now, it's  
time to level up  
with another  
challenge!



# INTRO TO VOICE AI

## Mission 2: New intent



**Mission 2:** Make a new intent and code a new collection of responses

# Mission 2:

Make.



Extend your code so that the Cosmic Question app has a new intent

Perhaps this intent could focus on facts about a particular planet, for example.

Create and give the new intent a suitable name

Create some utterances for the new intent - questions that would trigger a fact to be shared

Code a new list to hold the responses

Create a new event to pick a random fact from your new list

Test the skill responses with your new intent.

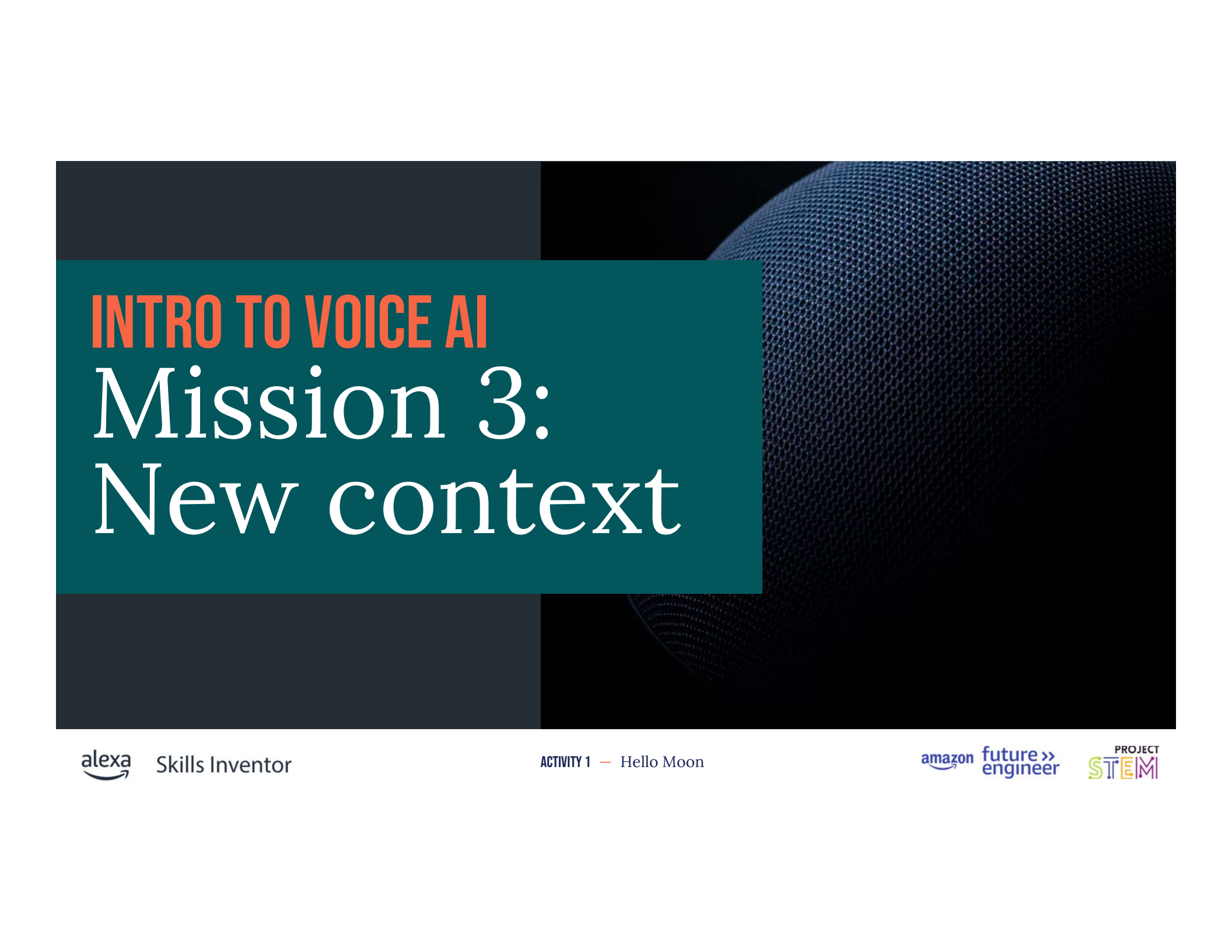


# Today's Activity: Completed

**Completed your mission?  
Congratulations!**

You just used voice  
AI to code your second  
Alexa skill today.





# INTRO TO VOICE AI

## Mission 3: New context

# Mission 3:

New intent

Change the context.



Start from scratch and create your own knowledge app for Alexa.

What could it do?

Help you diagnose a problem with your cat?

Help you increase your repertoire of good jokes?

Help you choose healthy meal options?



# Lesson Wrap-Up: Let's Discuss

review  
TIME

What's **something you  
learned** today that you  
didn't know before?

What **surprised you** most?

What would you like  
**to learn more** about?





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# Complete!



Teachers: please give us feedback by completing our survey!

<http://tiny.cc/alexauk>



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WRAP-UP — Future Voice of AI

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