alexa

Skills Inventor

CODE YOUR OWN OUT-OF-THIS-WORLD ALEXA SKILLS

amazon future engineer

PROJECT STEM

Getting Started

Intro to Voice AI

Today we'll explore the world of **artificial intelligence** - or **AI**.

Then, we'll get hands-on and build our own Alexa skills!

Lesson 1: Intro to Voice AI

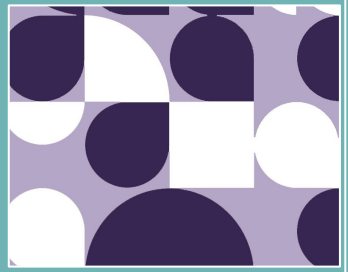
LAUNCH

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

Hello Moon

Let's get hands on with a real voice AI and get it to say hi!

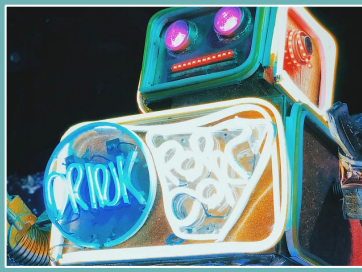
MISSION 2

Space Facts

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

WRAP-UP

Going Deeper

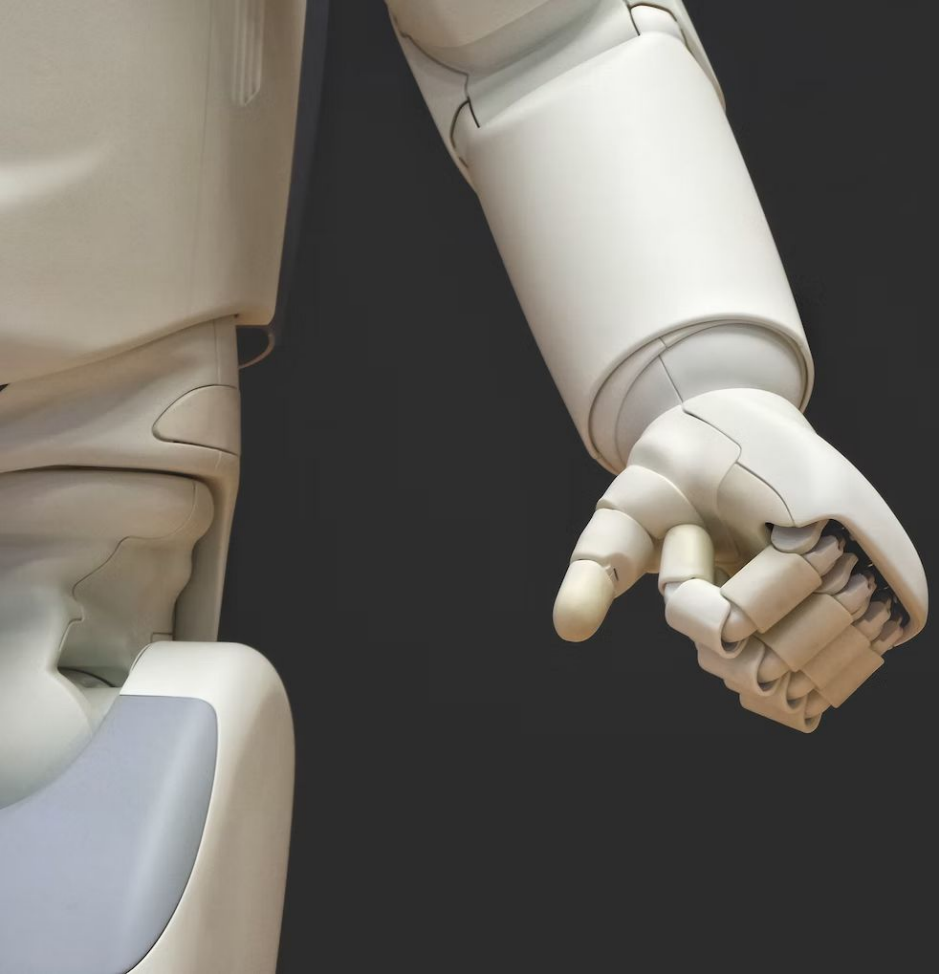


Let's deepen our understanding of how AI works in Alexa

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 recognize 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

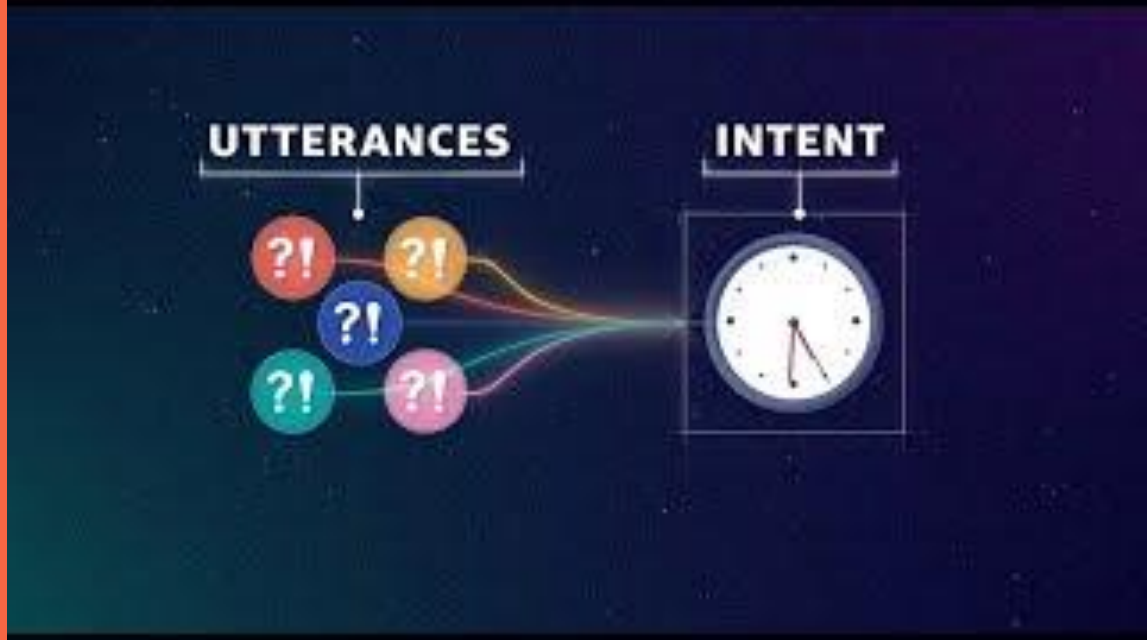
One of the most impactful ways AI is used is through **voice AI**, through personal assistants like Alexa.

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

INTRO TO VOICE AI

AI Basics

How does voice AI work?



Video Vocabulary

voice ai: technology that recognizes 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.

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: Hello, Moon!

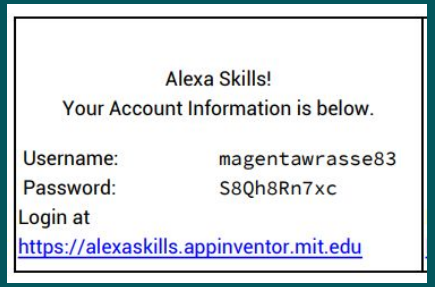
Login:

Go to:

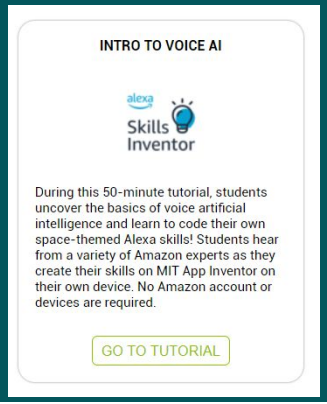
https://alexaskills.appinventor.mit.edu

Open Chrome.

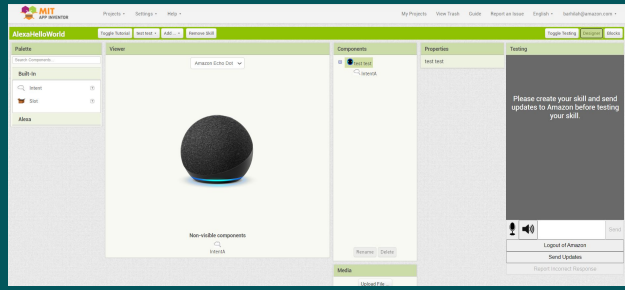
Use your card to login.



Select the middle tutorial.



Zoom out to 80% to see whole screen.



Mission 1:

Code an Alexa Skill using voice AI that can say '**Hello Moon**'.

During video:

- You can try to follow along, but **don't panic** if you get lost. We will go over it all after.
- Write down **key vocab** on your sheet.

review TIME

function: a block of reusable code used to perform an action

string: a series of characters like letters or numbers

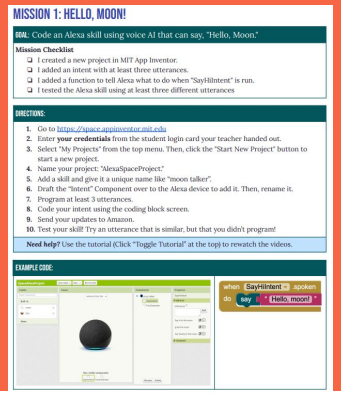
"**Alexa**, tell **moon talker** to **[.....]**" → triggers an **intent**

wake word — skill name — utterance

Mission 1:

Code an Alexa Skill using voice AI that can say '**Hello Moon**'.

Use worksheet for tips.


MISSION 1: HELLO, MOON!

GOAL: Code an Alexa skill using voice AI that can say, "Hello, Moon."

Mission Checklist
- ❑ I created a new project in MIT App Inventor.
- ❑ I added an intent with at least three utterances.
- ❑ I added a function to tell Alexa what to do when "SayHiIntent" is run.
- ❑ I tested the Alexa skill using at least three different utterances

DIRECTIONS:
1. Go to https://space.appinventor.mit.edu
2. Enter **your credentials** from the student login card your teacher handed out.
3. Select "My Projects" from the top menu. Then, click the "Start New Project" button to start a new project.
4. Name your project: "AlexaSpaceProject."
5. Add a skill and give it a unique name like "moon talker".
6. Draft the "Intent" Component over to the Alexa device to add it. Then, rename it.
7. Program at least 3 utterances.
8. Code your intent using the coding block screen.
9. Send your updates to Amazon.
10. Test your skill! Try an utterance that is similar, but that you didn't program!

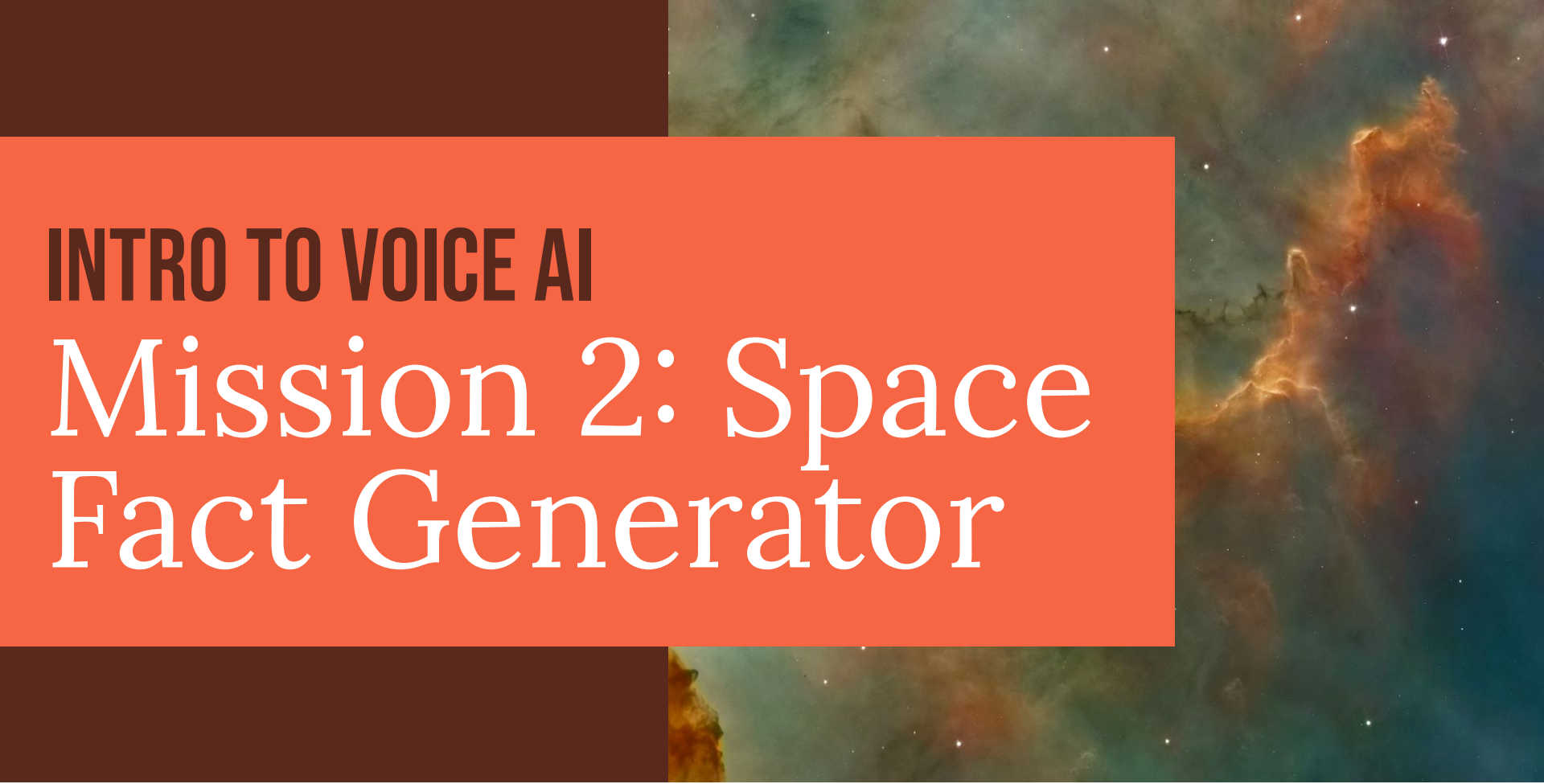
Need help? Use the tutorial (Click "Toggle Tutorial" at the top) to rewatch the videos.

EXAMPLE CODE:

***HINT**: If you can't find the gold intent block, select it from the Alexa portion of the library - not under "Control" blocks.

Today's Activity: Completed

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



INTRO TO VOICE AI

Mission 2: Space Fact Generator

Mission 2:

Code an Alexa skill that generates fun space facts using voice AI.

During video:

- You can try to follow along, but **don't panic** if you get lost. We will go over it all after.
- Write down **key vocab** on your sheet.

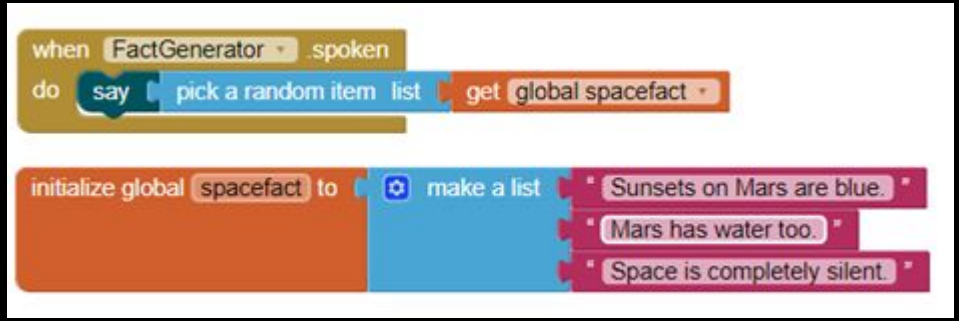
Video Vocabulary

variable: a value that can change

Mission 2:

Code an Alexa skill that generates fun space facts using voice AI.

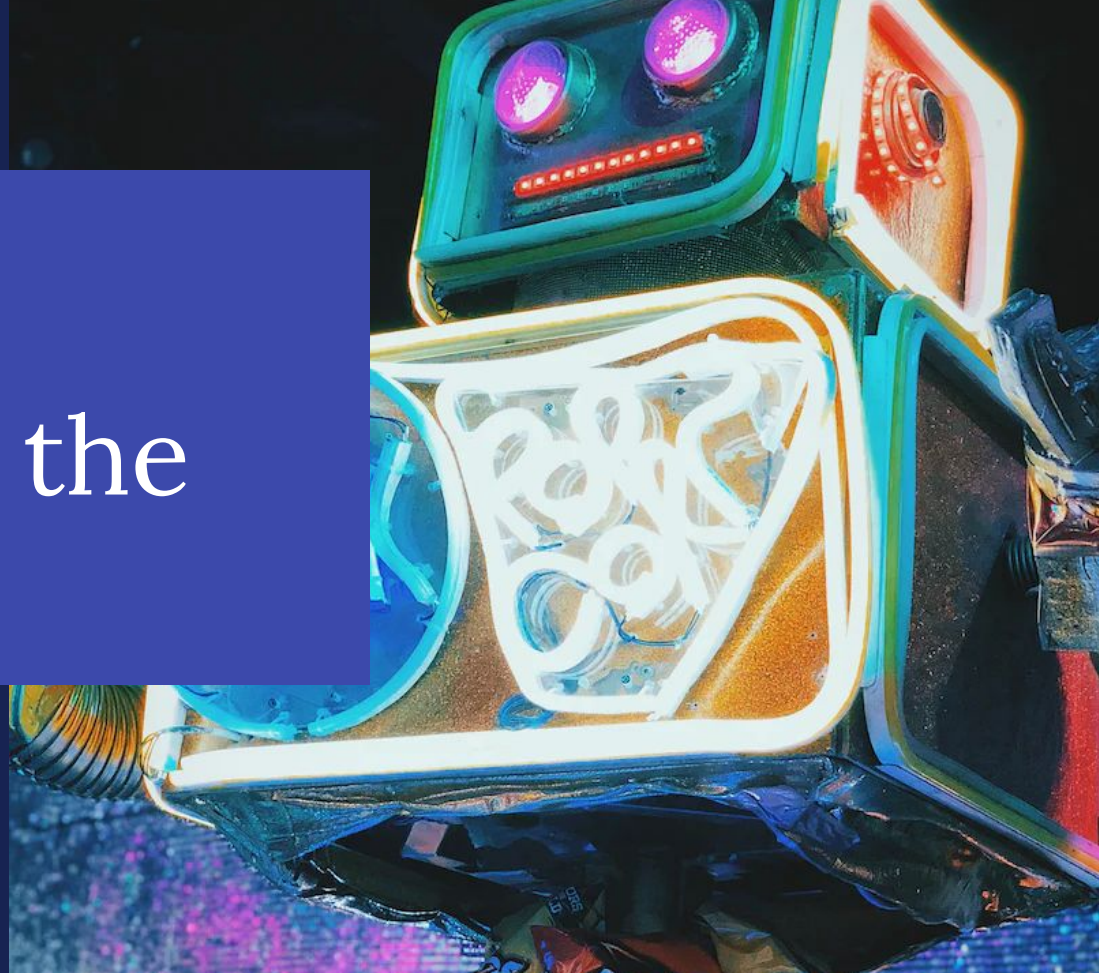
Example facts:			
Sunsets on Mars are blue	Space is completely silent	Mars has water too	One million Earths can fit inside the Sun



Today's Activity: Completed

GOING DEEPER

Understanding the AI in Alexa



Understanding the AI in Alexa:

Let's take a closer look at how artificial intelligence works inside Alexa. Then we'll wrap up with a discussion.

Video Wrap Up

- Why did Amazon choose the name “Alexa”?
- How does Alexa learn new words?
- How does Alexa know when to listen?
- What’s something Jeff wants everyone to know about Alexa?

Lesson Wrap-Up:
Let's Discuss

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!

Please give us feedback by completing our survey!

www.amazon.com/alexaskillsinventorsurvey