Simorgh Academy

AI-1001

Introduction to Artificial Intelligence

Classification: Cadet Level 1

Prerequisite: Admission to Simorgh Academy

Instructor: Ship AI Raksh

This activity booklet is provided **free of charge for personal, home, and classroom use**. You are welcome to download, print, copy, and share it with your own family or students.
You may **not** sell, modify, republish, or redistribute this booklet, in whole or in part, for commercial purposes.

© 2026 – Shahriar Bourbour - All rights reserved.

Module 1. Algorithms

Mission 1

Raksh has lost contact with Fleet Command.

The repair drone is awaiting instructions. Your job is to arrange the mission steps into the correct order so the drone can restore communications.

Instruction	Number
Check whether the external antenna is correctly aligned.	
Check whether a communication signal has been established.	
If main power is off, connect the auxiliary power unit and verify that power has been restored.	
Fly to the Communications Array.	1
If communication cables are secure, continue to inspect the antenna system.	
Restart the communications computer.	
Check whether the main power indicator is illuminated.	2
Open the communications console.	
If the antenna is aligned correctly, continue to restart the communications computer.	
If main power is on, continue to inspect the communications console.	
If communication has not been established, report: "Further repairs required."	
If communication cables are loose, reconnect all loose cables securely.	
If the antenna is misaligned, rotate the antenna until it points toward Fleet Command.	
If communication has been established, send the message: "Raksh online. Mission continues."	
Check whether any communication cables are loose.	

1. Fly to the Communications Array.
2. Check whether the main power indicator is illuminated.
3. If _____ on, _____.
4. If _____ off, _____.
5. _____ console.
6. _____ loose.
7. If _____ loose, _____.
8. If _____ secure, _____.
9. _____ aligned.
10. _____ aligned _____.
11. _____ misaligned, _____.
12. Restart _____.
13. _____ established.
14. If _____ established, _____.
15. If _____ not been established, _____.

Mission 2

Raksh has entered a dangerous asteroid field.

Complete the flight instructions by matching the correct action to each step. Every command is needed to guide Raksh safely back into open space.

Instructions:

1. _____ the forward sensors to locate nearby asteroids.
2. _____ the safest route through the asteroid field.
3. _____ the shields before entering the densest region.
4. _____ engine power to cruising speed.
5. _____ large asteroids while maintaining your course.
6. _____ small debris with the maneuvering thrusters.
7. _____ a safe distance from every asteroid.
8. _____ the ship's course whenever a new obstacle appears.
9. _____ the communications antenna after leaving the interference zone.
10. _____ the mission log once Raksh reaches open space.

Verbs:

- Activate
- Adjust
- Avoid
- Calculate
- Dodge
- Maintain
- Raise
- Recalibrate
- Record
- Reduce

Mission 3

Every Simorgh Academy cadet must know how to respond in an emergency.

Match each situation with the correct action. A quick decision could save the ship!

Conditions:

1. If the main shields fail _____
2. If the port engine overheats _____
3. If an asteroid blocks your flight path _____
4. If the communications antenna stops working _____
5. If Raksh detects a pirate ship nearby _____
6. If oxygen levels begin to fall _____
7. If the navigation computer loses the star map _____
8. If an unknown spacecraft requests permission to dock _____
9. If the White Deev is detected ahead _____
10. If the reactor temperature rises above the safe limit _____

Actions:

- Calculate an alternate path.
- Enter stealth mode and avoid detection.
- Use the backup navigation system.
- Retreat immediately and notify Fleet Command.
- Use the emergency communications antenna.
- Begin an emergency reactor shutdown.
- Switch to auxiliary shields.
- Verify the ship’s identity and request a security code.
- Seal affected compartments and activate the life-support backup.
- Reduce engine power and activate the cooling system.

Mission Debrief

Excellent work, Cadet!

In this module you learned about **algorithms**, which are step-by-step instructions for computers to perform a task, or a series of tasks.

Every time you guided the repair drone, navigated Raksh through an asteroid field, or matched emergency situations with the correct actions, you were creating and following an algorithm.

Computers, robots, and AI systems don't "guess" what to do next. They follow instructions one step at a time, in the correct order. If the instructions are missing, out of order, or unclear, the computer may not complete its mission successfully.

Algorithms are used everywhere: in video games, robots, GPS navigation, search engines, and even aboard intelligent starships like Raksh!

As a Simorgh Academy cadet, you've completed your first AI training mission. In the next module, you'll discover how computers recognize patterns and use them to make smart decisions.

Module 2. Decision Trees

Mission 1

Raksh's long-range sensors have detected an unidentified spacecraft approaching. Its identity is unknown, and time is running out.

As the **Tactical Officer**, you must help Raksh determine whether the approaching ship is friendly or a threat. Use the decision tree below to answer each question in order. Every answer will guide you to the next decision until you identify the ship.

			Unknown Ship Approaching			
			Is the ship broadcasting A Simorgh Fleet ID?			
	YES				NO	
	Type: _____				Is the ship transmitting a distress signal?	
			YES		NO	
			Type: ____		Does the ship have weapons powered on?	
				YES		NO
				Type: ___		Type: ___

Ship Types:

Abandoned or in distress

Merchant vessel

Pirate raptor

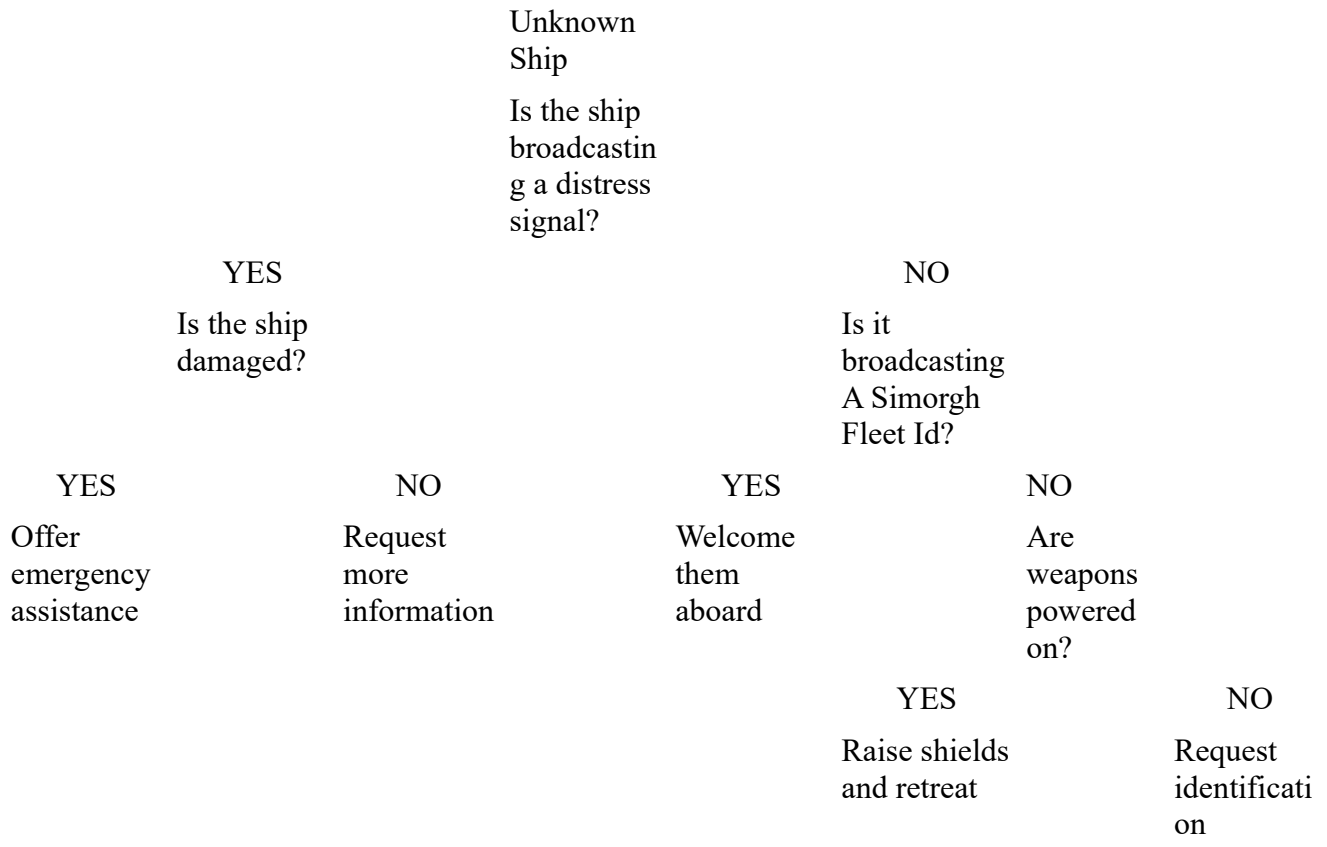
Simorgh Fleet Patrol

Mission 2

Raksh has identified an approaching spacecraft, but now the crew must decide what to do next. Should they welcome the visitors, offer assistance, prepare for battle, or keep their distance?

As **First Officer**, your job is to follow the decision tree. Each answer will lead you to the safest action for the crew.

Remember, Simorgh Academy values **wisdom before action**. The best decision isn't always the fastest one.



For each situation, follow the decision tree and write the correct response.

A

The ship is sending a distress signal.

Its engines are damaged.

Simorgh Fleet should: _____

B

The ship is **not** sending a distress signal.

It is broadcasting A Simorgh Fleet ID.

Simorgh Fleet should: _____

C

The ship is **not** sending a distress signal.

It is **not** broadcasting A Simorgh Fleet ID.

Its weapons are powered on.

Simorgh Fleet should: _____

D

The ship is **not** sending a distress signal.

It is **not** broadcasting A Simorgh Fleet ID.

Its weapons are **not** powered on.

Simorgh Fleet should: _____

Mission Debrief

Excellent work, Cadet!

In this module you learned about **decision trees**, a simple way that computers and AI systems make decisions.

A decision tree works by asking a series of questions. Each answer leads to another question or to a final decision. Just like following a trail through a forest, every choice takes you one step closer to the correct destination.

During your missions, you helped Raksh identify unknown spacecraft and choose the safest response for the crew. You discovered that AI doesn't "think" like humans do. Instead, it follows rules and answers questions one step at a time until it reaches a decision.

Decision trees are used in many real-world applications, including medical diagnosis, email spam filters, customer support, video games, and self-driving vehicles. They help computers solve problems by breaking big decisions into a series of smaller, easier questions.

As a Simorgh Academy cadet, you've taken another important step toward understanding how intelligent systems work. In the next module, you'll learn how AI recognizes patterns to identify objects, signals, and even entire worlds.

Module 3. Training Your Ship

Mission 1

Every Simorgh Academy cadet is assigned a new ship Artificial Intelligence assistant to train. Your AI is called **Prototype-100**.

Prototype-100 is very smart, but it has one problem: It has never explored the galaxy before. It cannot tell the difference between safe and dangerous space phenomena.

Prototype-100 has discovered ten strange objects in space.

Study each one. Decide whether it belongs in the **SAFE** database or the **DANGEROUS** database. When you're finished, Prototype-100 will use your examples to learn.

Space Phenomenon	Safe	Dangerous
Asteroid Belt	□	□
Space Station	□	□
White Deev Crystal Storm	□	□
Pirate Ambush	□	□
Ice Comet	□	□
Black Hole	□	□
Simorgh Fleet Beacon	□	□
Nebula Gas Cloud	□	□
Solar Flare	□	□
Rescue Ship	□	□

Mission 2

Prototype-100 has studied your examples. Now it must classify new discoveries on its own.

Do you think Prototype-100 is correct? Circle **YES** if you agree. Circle **NO** if you think the AI made a mistake. When you're finished, Prototype-100 will use your examples to learn.

New Discovery	Prototype-100 Says	Do You Agree?
Pirate Raptor	Dangerous	YES / NO
Simorgh Fleet Cruiser	Safe	YES / NO
Rogue Asteroid	Safe	YES / NO
White Deev Fragment	Safe	YES / NO
Medical Rescue Ship	Dangerous	YES / NO

Mission 3

Prototype-100 made a few incorrect decisions.

Good news! AI can improve when people give it better examples.

Correct Prototype-100's mistakes by applying each question to the object above, and determine dangerous or safe category based on that.

What clue should Prototype-100 pay more attention to next time?

1. Is it broadcasting A Simorgh Fleet ID?
2. Is it powering on weapons?
3. Is it giving off dangerous energy?
4. Is it offering help?

Mission Debrief

Excellent work, Cadet!

In this module you learned about **machine learning**, one of the most exciting areas of artificial intelligence.

Machine learning is a way for computers to learn from **examples** instead of being told every single rule. Just as you trained Prototype-100 by showing it which space phenomena were safe and which were dangerous, engineers train AI systems by giving them lots of examples to study.

At first, Prototype-100 made a few mistakes. That's normal! AI systems improve when people check their answers, correct their mistakes, and provide better examples. The more high-quality examples an AI receives, the better it usually becomes at making predictions.

Machine learning is used every day to recognize faces in photos, recommend videos and music, translate languages, filter spam emails, and even help scientists discover new medicines. But remember: AI doesn't truly understand the world the way people do. It learns by **finding patterns** in the **data** it has been given.

As a Simorgh Academy cadet, you've taken another step toward becoming an AI Commander. In the next module, you'll learn how AI uses **search and path finding** to plan safe routes through space and solve complex navigation challenges.

Module 4. Robot Language Training

Mission 1

Prototype-100 has learned how to identify dangerous objects in space.

Now it has a new challenge. It can read English, but it doesn't always understand what words belong together.

Your job is to teach Prototype-100 which words belong together. Every Simorgh Fleet command has two important parts:

- **Who or what** the command is about, called the noun phrase.
- **What should happen**, called the verb phrase.

Draw a line connecting the correct noun phrase and verb phrase.

Example:

The damaged antenna → needs repair.

Noun Phrase	Verb Phrase
The damaged antenna	is growing stronger.
The rescue shuttle	is running low.
The Pirate Raptor	is sending a distress signal.
The communications array	is calculating a new route.
The navigation computer	is learning quickly.
The engine coolant	needs repair.
The merchant ship	is blocking the route.
The asteroid field	has stopped sending or receiving.
The White Deev	is landing.
Prototype-100	is firing at us.

Mission 2

Prototype-100 can read complete sentences, but it still has trouble figuring out which words belong together.

Help Prototype-100 by dividing each sentence into two parts:

- **Noun Phrase** (Who or what is the sentence about?)
- **Verb Phrase** (What is happening?)

Sentence	Noun Phrase	Verb Phrase
1. Raksh scans the nearby asteroid field.	_____	_____
2. Princess Tahmina pilots Mithra through the nebula.	_____	_____
3. The repair drone replaces the damaged antenna.	_____	_____
4. The White Deev attacks a mining station.	_____	_____
5. A Simorgh Academy cadet decodes the secret message.	_____	_____
6. The communications officer sends an emergency beacon.	_____	_____
7. The intelligent starship detects a hidden Pirate Raptor.	_____	_____
8. Commander Rostam orders the fleet to retreat.	_____	_____
9. The damaged space station needs immediate repairs.	_____	_____
10. Prototype-100 learns from every new mission.	_____	_____

Mission 3

Prototype-100 is getting better at understanding human language, but it still makes mistakes. It has divided each sentence into the wrong Noun Phrase and Verb Phrase.

Can you fix its mistakes?

Draw a line through the incorrect phrases and write the correct ones.

1. **Sentence:** Raksh scans the nearby asteroid field.

Prototype-100 says:

Noun Phrase: **Raksh scans**

Noun Phrase: **the nearby asteroid field**

2. Sentence: Princess Tahmina pilots Mithra.
Prototype-100 says:
Noun Phrase: **Princess**
Verb Phrase: **Tahmina pilots Mithra**

3. **Sentence:** The repair drone replaces the damaged antenna.
Prototype-100 says:
Noun Phrase: **The repair**
Verb Phrase: **drone replaces the damaged antenna**

4. **Sentence**: The White Deev attacks a mining station.
Prototype-100 says:
Noun Phrase: **The White**
Verb Phrase: **Deev attacks a mining station**

5. **Sentence:** A Simorgh Academy cadet decodes the secret message.
Prototype-100 says:
Noun Phrase: **A Simorgh Academy**
Verb Phrase: **cadet decodes the secret message**

6. **Sentence:** The communications officer sends an emergency beacon.
Prototype-100 says:
Noun Phrase: **The communications**
Verb Phrase: **officer sends an emergency beacon**

7. **Sentence:** The intelligent starship detects a hidden Pirate Raptor.
Prototype-100 says:
Noun Phrase: **The intelligent**
Verb Phrase: **starship detects a hidden Pirate Raptor**

8. **Sentence:** Commander Rostam orders the fleet to retreat.
Prototype-100 says:
Noun Phrase: **Commander Rostam orders**
Verb Phrase: **the fleet to retreat**

9. **Sentence:** The damaged space station needs immediate repairs.
Prototype-100 says:
Noun Phrase: **The damaged space**
Verb Phrase: **station needs immediate repairs**

10. **Sentence:** Prototype-100 learns from every new mission.
Prototype-100 says:
Noun Phrase: **Prototype-100 learns**
Verb Phrase: **from every new mission**

Mission Debrief

Excellent work, Cadet!

In this module you learned about **Natural Language Processing**, a branch of artificial intelligence that helps computers understand, analyze, and respond to human language.

People understand language naturally. When someone says, “Repair the damaged engine,” you immediately know that the engine is the thing that needs attention and repair is the action that needs to happen.

Computers, however, do not understand words the same way humans do. They need to break language into smaller pieces and look for patterns. During your missions, you helped Prototype-100 identify **Noun Phrases** and **Verb Phrases** so it could better understand Simorgh Fleet commands.

Identifying these parts of a sentence helps AI systems understand who or what a sentence is about and what action is taking place.

Natural Language Processing is used in many technologies you use every day, including voice assistants, translation apps, search engines, chatbots, and systems that help computers read and organize information.

But language is complicated! Words can have different meanings depending on the situation, and people often use humor, emotion, and creativity that computers must learn to recognize. That is why humans are still an important part of building and training AI systems.

By teaching Prototype-100 how to understand language, you completed an important Simorgh Fleet mission: helping a machine communicate more effectively with its human crew.

Answers

Module 1. Algorithms

Mission 1

- Fly to the Communications Array.
- Check whether the main power indicator is illuminated.
- **If main power is on, continue to inspect the communications console.**
- **If main power is off, connect the auxiliary power unit and verify that power has been restored.**
- Open the communications console.
- Check whether any communication cables are loose.
- **If communication cables are loose, reconnect all loose cables securely.**
- **If communication cables are secure, continue to inspect the antenna system.**
- Check whether the external antenna is correctly aligned.
- **If the antenna is aligned correctly, continue to restart the communications computer.**
- **If the antenna is misaligned, rotate the antenna until it points toward Simorgh Fleet Command.**
- Restart the communications computer.
- Check whether a communication signal has been established.
- **If communication has been established, send the message: "Raksh online. Mission continues."**
- **If communication has not been established, report: "Further repairs required."**

Mission 2

1. Activate
2. Calculate
3. Raise
4. Reduce
5. Avoid
6. Dodge
7. Maintain
8. Adjust
9. Recalibrate
10. Record

Mission 3

1. Switch to auxiliary shields.
2. Reduce engine power and activate the cooling system.
3. Calculate an alternate path.
4. Use the emergency communications antenna.
5. Enter stealth mode and avoid detection.
6. Seal affected compartments and activate the life-support backup.
7. Use the backup navigation system.
8. Verify the ship's identity and request a security code.
9. Retreat immediately and notify Simorgh Fleet Command.
10. Begin an emergency reactor shutdown.

Module 2. Decision Trees

Mission 1

Ship types from left to right:

Simorgh Fleet Patrol, Abandoned or in distress, Pirate raptor, Merchant vessel.

Mission 2

A. Offer emergency assistance.

B. Welcome them aboard.

C. Raise shields and retreat.

D. Request identification.

Mission 3

Pirate Raptor	Powering up weapons	Dangerous
Simorgh Fleet Cruiser	Broadcasting Simorgh Fleet ID	Safe
Rogue Asteroid	Not giving off dangerous energy	Safe
White Deev Fragment	Giving off dangerous energy	Dangerous
Medical Rescue Ship	Broadcasting Simorgh Fleet ID and offering help	Safe

Module 4. Robot Language Training

Mission 1

Noun Phrase	Verb Phrase
The damaged antenna	needs repair.
The rescue shuttle	is landing.
The Pirate Raptor	is firing at us.
The communications array	has stopped sending or receiving.
The navigation computer	is calculating a new route.
The engine coolant	is running low.
The merchant ship	is sending a distress signal.
The asteroid field	is blocking the route.
The White Deev	is growing stronger.
Prototype-100	is learning quickly.

Mission 3

Sentence	Correct Noun Phrase	Correct Verb Phrase
Raksh scans the nearby asteroid field.	**Raksh**	scans the nearby asteroid field.
Princess Tahmina pilots Mithra.	**Princess Tahmina**	pilots Mithra.
The repair drone replaces the damaged antenna.	**The repair drone**	replaces the damaged antenna.
The White Deev attacks a mining station.	**The White Deev**	attacks a mining station.
A Simorgh Academy cadet decodes the secret message.	**A Simorgh Academy cadet**	decodes the secret message.
The communications officer sends an emergency beacon.	**The communications officer**	sends an emergency beacon.
The intelligent starship detects a hidden Pirate Raptor.	**The intelligent starship**	detects a hidden Pirate Raptor.
Commander Rostam orders the fleet to retreat.	**Commander Rostam**	orders the fleet to retreat.

Sentence	Correct Noun Phrase	Correct Verb Phrase
The damaged space station needs immediate repairs.	**The damaged space station**	needs immediate repairs.
Prototype-100 learns from every new mission.	**Prototype-100**	learns from every new mission.

Certificate of Completion

This is to certify that

Cadet _____

has successfully completed

Simorgh Academy Course AI-1001: Introduction to Artificial Intelligence.

Throughout this journey, the cadet explored the foundations of artificial intelligence by completing missions in algorithms, decision-making, machine learning, and language understanding. Through curiosity, creativity, and problem-solving, the cadet learned how intelligent systems are designed, trained, and used to explore new possibilities.

This certificate recognizes the cadet's dedication to learning, courage to explore the unknown, and commitment to discovering the future of technology.

Awarded in recognition of a successful first mission among the stars.

Simorgh Academy
Guided by Wisdom. Driven by Courage. Discovery among the Stars.