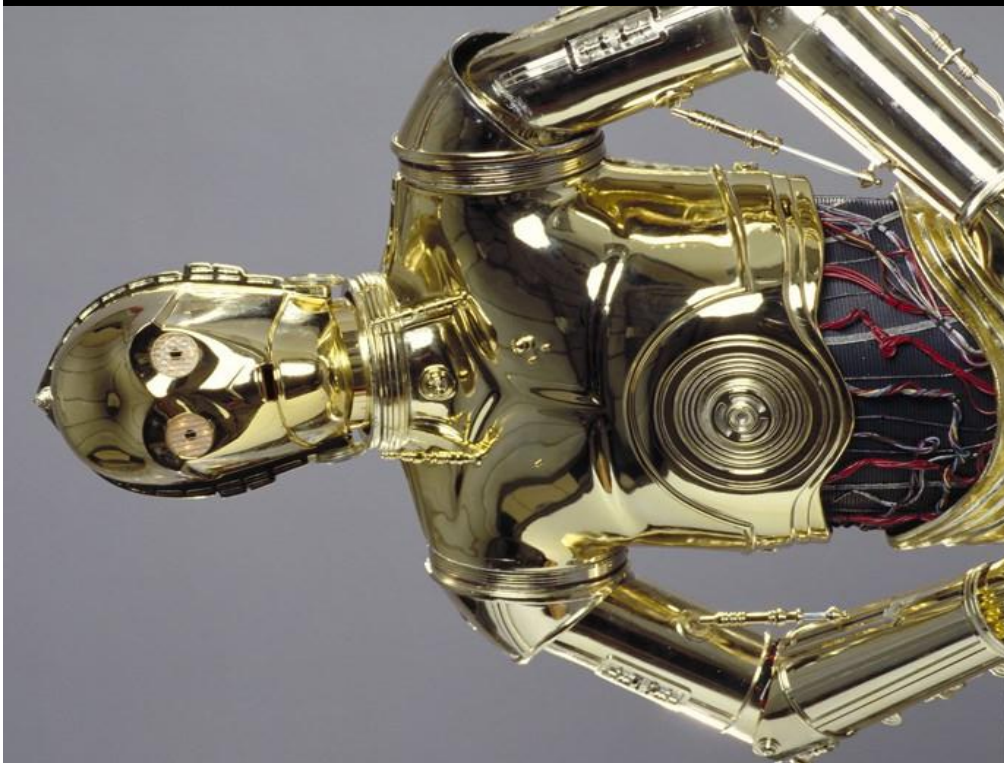


# Robotic Icebreaker Activity

Robots are generally associated with science fiction and the future. Asking students to actually build and program one can be frustrating and scary. As an opening to your class, the following icebreaker activity can be used to get to know your students, as well as introduce students to “famous” robots.

## Procedure:

1. Have each student pick a card. On the front of the card is a picture of a robot found in TV or movies. On the back of the card is a brief summary of that robot’s character.
2. Students are to read the summary of each robot and then introduce themselves to the class. They can introduce themselves as being similar to the robot or being the opposite.
3. The cards can also be used as a springboard into studying the history of robotics.



### C3PO – STAR WARS

C-3PO, often referred to as Threepio, was a bipedal, humanoid protocol droid designed to interact with organics, programmed primarily for etiquette and protocol. He was fluent in over six million forms of communication, and developed a fussy and worry-prone personality throughout his many decades of operation. Along with his counterpart, R2-D2, C-3PO constantly found himself directly involved in pivotal moments of galactic history, and aided in saving the galaxy on many occasions. C-3PO considered various droids and organics to be friends of his, and was very dedicated to them, as well as to any master that he served.

### R2D2 – STAR WARS

R2-D2, often referred to as Artoo, was an R2-series astromech droid manufactured by Industrial Automaton. Resourceful and spunky, the droid developed an adventurous personality during his many decades of operation. Inside of his cylindrical frame were many arms, sensors, and other tools that could be extended to fulfill various needs, such as slicing computers, extinguishing fires, projecting holograms, repairing starships, and flying. Along with his counterpart, the protocol droid C-3PO, R2-D2 constantly found himself directly involved in pivotal moments of galactic history. His bravery, coupled with his many gadgets, played large roles in saving the galaxy time and time again. Like other astromech droids, R2-D2 could walk on two legs or use a third leg to roll across the ground.

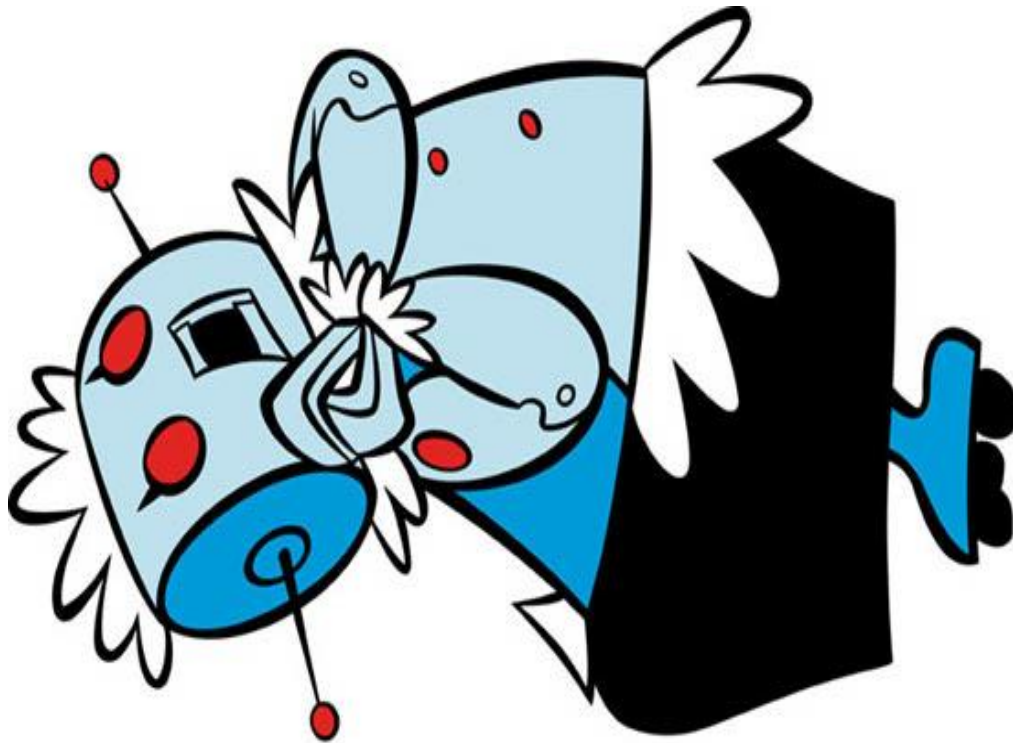
### WEEBO – FLUBBER

Weebo was the absent-minded professor Philip Brainard's assistant, and like many lab partners, they fell in love.

Well, Weebo fell in love with Brainard. Brainard just played with Flubber all day. Sadly, even after projecting her feelings using holographic metaphors, Brainard still didn't warm up to the idea of man-on-hovering-robot relations. Luckily, they still remained friends

### BISHOP – ALIEN

Bishop was the android executive officer assigned to the Sulaco and was primarily responsible for planetary maneuvering. Unlike Ash, he was loyal to his seniors, colleagues and especially Ripley. Although Bishop tried to be friendly to Ripley, she did not trust him until he had proved himself. Bishop does not engage in combat, however, instead acting as a medic and tending to other support functions.



#### ROSEY THE MAID – THE JETSONS

Rosey: age 45, is the Jetsons' household robot. She's an outdated model but the Jetsons love her and would never trade her for a newer model. Rosey does all the household chores and some of the parenting. She is a strong disciplinarian and occasionally dispenses advice to the family.

#### BUMBLEBEE – TRANSFORMERS

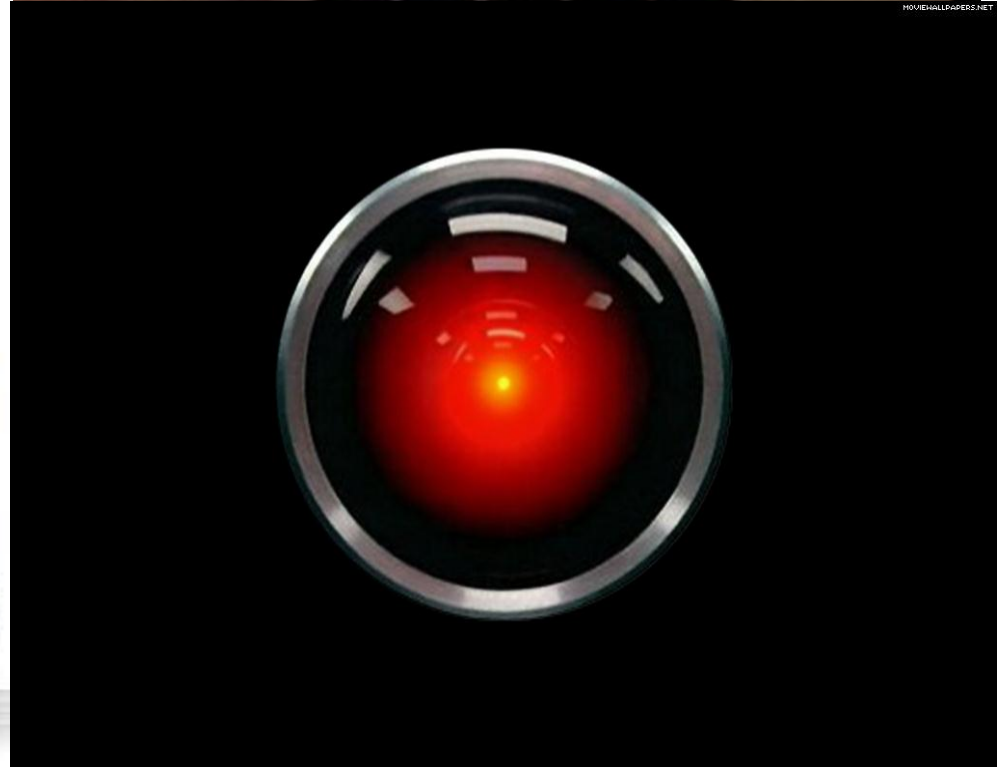
Bumblebee is one of the smallest and physically weakest Autobots. While his stature allows him to do his job better than most Autobots could manage, he is self-conscious about his size. Maybe this is why he makes fast friends among the humans. He looks up (so to speak) to the other Autobots, especially Optimus Prime, but what he doesn't realize is that they look up to him. He may be small, but he's brave, and he's one of the most well-liked Autobots around. Bumblebee already has the respect he craves.

#### IRON GIANT – THE IRON GIANT

With eyes that glow and can change to red when threatened or angry, parts that transform and reassemble (and indestructible to virtually anything), the Giant becomes best friend and hero to Hogarth. While capable of incredible destructive powers and is equipped with highly destructive weapons for the time, he is rendered benign by damage to his head. Hogarth teaches him to use his strength for good rather than destruction, proving to the world that he recognizes the value of life. The Giant reacts defensively if it recognizes anything as a weapon, immediately attempting to destroy it, but can stop himself.

#### DAVID – A.I. ARTIFICIAL INTELLIGENCE

In the mid 21st century, severe global warming has led to melting polar ice caps, flooded coastlines, and a drastic reduction of the human population. There is a new class of robots called Mecha, advanced humanoids capable of emulating thoughts and emotions. David, a prototype model created by Cybertronics of New Jersey, is designed to resemble a human child and to display love for its human owners. They test their creation with one of their employees, Henry Swinton and his wife Monica. The Swintons' son, Martin, was placed in suspended animation until a cure can be found for his rare disease. Although Monica is initially frightened of David, she eventually warms to him after activating his imprinting protocol, which irreversibly causes David to project love for her, the same as any child would love a parent. He is also befriended by Teddy, a robotic teddy bear, who takes it upon himself to care for David's well being.



WALL·E (short for Waste Allocation Lift Loader, Earth-Class) is the only robot of his kind left on Earth after a botched attempt at trying to clean the trash-covered planet. The WALL·E units were left behind to clean the planet while humanity enjoyed a 5-year cruise. Before the last of the humans left Earth for good, claiming operation Cleanup wasn't working, they forgot to turn WALL·E off. The 5-year cruise became a 700-year cruise with humans content to remain in space, waited on hand and foot by an army of robots care of the Buy N Large corporation. After 700 years of continuing his directive, i.e. cleaning the planet, WALL·E developed one little glitch: a personality. He is extremely curious, friendly to his pet cockroach, Hal, and even a little bit lonely.

#### OPTIMUS PRIME – TRANSFORMERS

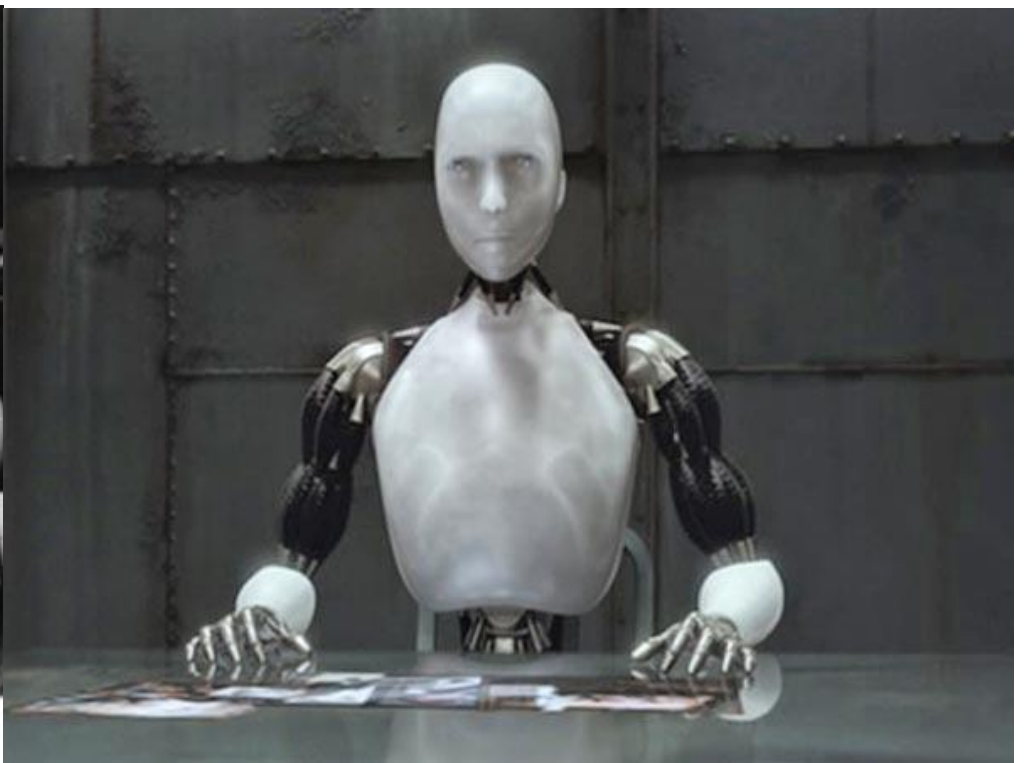
The Cybertronian who would become Optimus Prime was once a simple data clerk, satisfied with his job. It wasn't until he heard of an outspoken gladiator named Megatron and his call for an upheaval of Cybertron's society that he realized he was dissatisfied with his lot in life- and that the oppressive caste system hindered the freedom of all the sentient beings on Cybertron. Little did he realize that his boss, the archivist Alpha Trion, knew of a secret potential within the data clerk, and that Cybertron's history was at a precipice. Once he and Megatron discovered they did not have as much in common as they once believed, the lowly data clerk was promoted by the High Council to be the next Prime. Over the centuries, loss and war have led Optimus to appear stern and serious to most. But scratch the surface, and you'll find an individual who greatly cares for his fellow living beings, with a warmth and kindness his closest friends can rely on. You'll also find regret over the loss of a comrade to darkness, and the faintest glimmer of hope that he can be saved.

#### HAL 9000 – 2001: A SPACE ODYSSEY

HAL (Heuristically programmed Algorithmic computer) is an artificial intelligence that interacts with the astronaut crew of the Discovery One spacecraft. Being a computer, HAL has no distinct physical form, though is visually represented as a red television-camera eye located on equipment panels throughout the ship. HAL speaks in a soft, calm voice and a conversational manner, in contrast to the crewmen, David Bowman and Frank Poole, who speak tersely and with little emotional inflection. In addition to maintaining the Discovery One spacecraft systems during the interplanetary mission to Jupiter, HAL is capable of speech, speech recognition, facial recognition, natural language processing, lip reading, art appreciation, interpreting and reproducing emotional behaviours, reasoning, and playing chess.

#### TERMINATOR

The Terminator is a formidable robotic assassin and soldier, designed by the military supercomputer Skynet for infiltration and combat duty, towards the ultimate goal of exterminating the human resistance. It can speak naturally, copy the voices of others, read human handwriting, and even genuinely sweat, smell, and bleed. To detect the Terminators, who are otherwise indistinguishable from humans, the human resistance uses dogs to alert humans to their presence. The most notable science fiction characteristics are that of an expert system featuring strong AI functionality combined with machine learning, and the system can interpret arbitrary non-formalized tasks. The other notable science fiction component is that of a power source which can last 120 years.





## ANDREW – BICENTENNIAL MAN

The NDR series robot “Andrew” is introduced into the Martin family home on April 3, 2005 to perform housekeeping and maintenance duties. The family’s reactions to the new convenience range from acceptance and curiosity to outright rejection and deliberate vandalism by their surly older daughter, Grace, which leads to the discovery that this robot can both identify emotions and reciprocate in kind. When Andrew accidentally breaks a glass figurine belonging to “Little Miss” Amanda Martin to whom he is devoted, he carves a similar figurine out of wood. The family is astonished by this sign of original creativity in a robot and “Sir” Richard Martin takes Andrew to his manufacturer, NorthAm Robotics, to inquire if all the robots are like him. The CEO of the company sees this development as a problem and wishes to scrap Andrew or, as he puts it, “fix him.” Angered, Martin takes Andrew home and allows him to pursue his own development: creating masterpiece clocks and other wood items. He also encourages Andrew to educate himself in the humanities and helps him to understand the concepts.

## THE ROBOT – LOST IN SPACE

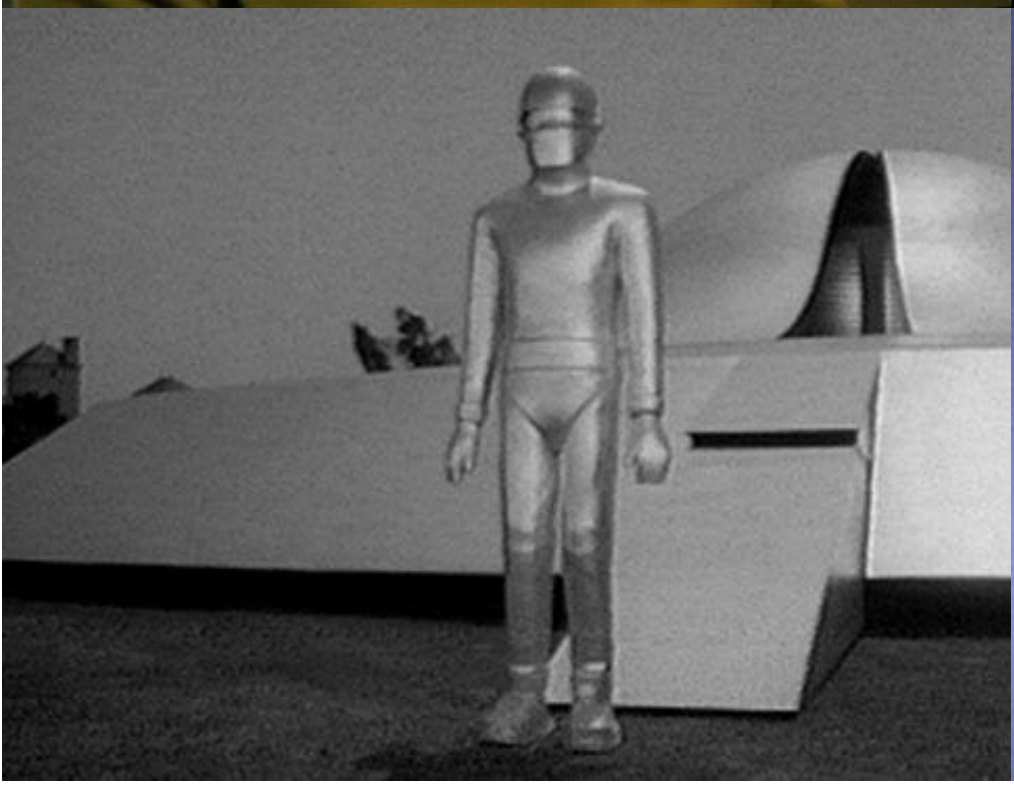
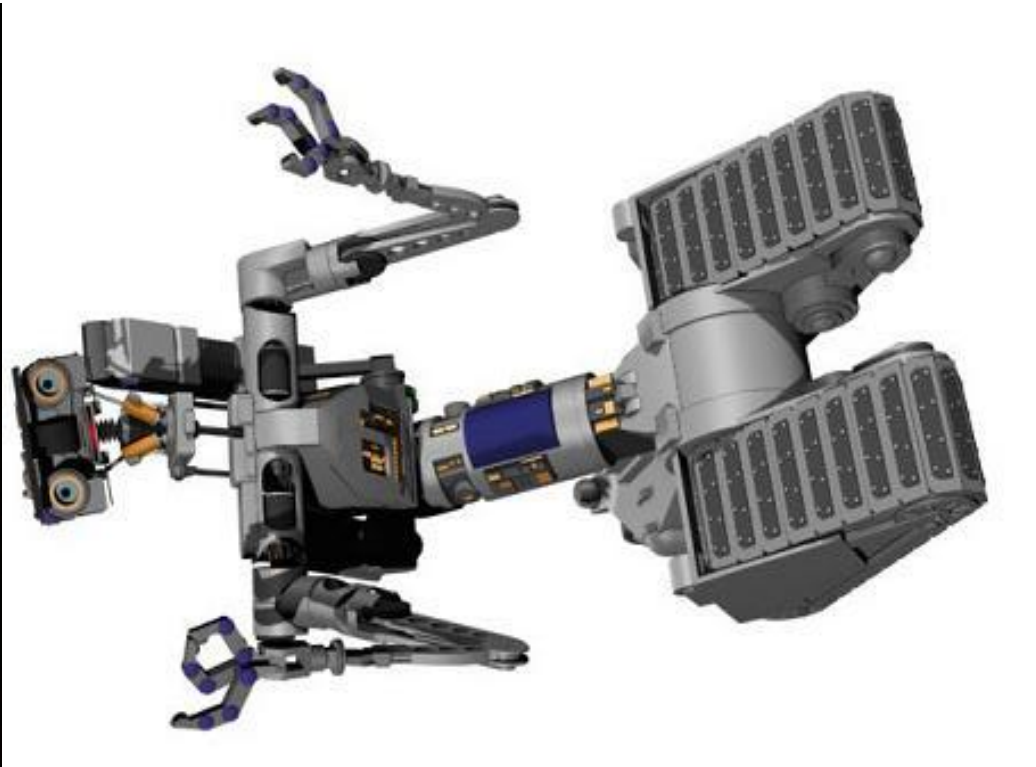
The Robot possessed powerful computers that allowed him to make complex calculations and to deduce many facts. He had a variety of sensors that detected numerous phenomena and dangers. He was programmed with extensive knowledge on many subjects, including how to operate the Jupiter 2 spaceship. His construction allowed him to function in extreme environments and in the vacuum of space. He was extremely strong, giving him utility both in performing difficult labor and in fighting when necessary. Moreover, his claws could fire laser beams and, most frequently, a powerful "electro-force" that was similar to arcing electricity.

## MEGATRON – TRANSFORMERS

The awesomely powerful Megatron is, in many ways, a fallen hero. He rose up from the oppressed lower working castes of Kaon to become a champion in the region's illegal deathmatches, cast aside his designation of D-16 and took the legendary name Megatronus as his own, he called for an end to Cybertron's decrepit caste system and told the downtrodden that freedom of self-determination was the right of all sentient beings! But absolute power corrupts absolutely, and Megatron's Decepticon revolution ended up becoming a whole new tyranny. Powerful, charismatic, violent, and full of rage for any who would stand in the way of his ambition and drive, Megatron brought Cybertron past the brink of destruction. Now he and his former brother-in-arms Optimus Prime fight on other worlds. Megatron will never forgive Optimus for "betraying" him, stealing from the Council the rank of Prime which was rightfully his. He has reserved for his old friend the greatest honor possible: glorious death at his hands.

## SONNY – I, ROBOT

Sonny, an NS5 model who was programmed personally by the founding father of all robot technology, manages to develop higher mental abilities such as dreaming and reasoning. In the end, when the good guys, both man and machine, are holding their own against rabid attack bots, Sonny is capable of making a “logical” choice — proving that it’s man who may have to reprogram his prejudices.



## GORT – THE DAY THE EARTH STOOD STILL

The eight-foot metal robot accompanies Klaatu, a visitor to Earth from a distant planet, aboard a flying saucer. He does not speak, but uses a beam weapon projected from beneath a visor to vaporize weapons and obstacles. Klaatu describes him as being part of an interstellar police force. He announces that the people of the universe constructed numerous robots like Gort and gave them irrevocable powers to respond to violent actions in order to "preserve the peace." He goes on to say that "There's no limit to what Gort could do. He could destroy the Earth."

## DATA – STAR TREK

Designed and built by Doctor Noonien Soong, Data is a sentient android who serves as the second officer and chief operations officer aboard the starships USS Enterprise-D and USS Enterprise-E. His positronic brain allows him impressive computational capabilities. Data experienced ongoing difficulties during the early years of his life with understanding various aspects of human behavior and was unable to feel emotion or understand certain human idiosyncrasies, inspiring him to strive for his own humanity. This goal eventually led to the addition of an "emotion chip", also created by Soong, to Data's positronic net. Though Data's striving for humanity and desire for human emotion is a significant plot point throughout the series, he continually shows a nuanced sense of wisdom, sensitivity, and curiosity.

## ROBOCOP

Murphy, a Detroit's police officer, was rushed to the operating table where he was declared dead; however, mega-corporation Omni Consumer Products (OCP), which had recently taken over operation of Detroit's law enforcement, had other plans for him. Combining state-of-the-art technology, armor and weaponry, OCP merged Murphy's mind with machinery to create Robocop, the crime-fighting cyborg. OCP programmed Robocop with three prime directives: serve the public trust, protect the innocent, and uphold the law. A fourth, unknown directive remained hidden in his programming. At first, Robocop cleaned up crime in Detroit and had citizens cheering and criminals on the run. Before long, however, Alex Murphy's memories began to haunt the cyborg. Searching for clues to his past, Robocop rediscovered memories of his happy family life and his murder at the hands of a gang. He became determined to get vengeance for his own murder.

## JOHNNY 5 – SHORT CIRCUIT

Number 5 is one of five prototype robots proposed for Cold War use by the U.S. military, although the scientist mainly responsible for creating them are more interested in peaceful uses of their artificial intelligence, like playing musical instruments. While a demonstration takes place on the grounds of the developer's company, Nova Laboratories in Damon, Washington, a lightning storm forces an end to the presentation. A power surge hits Number 5 while it is recharging and alters its program, causing a malfunction. An associated accident causes it to be taken off company grounds and it wanders away, unable to communicate and not knowing where it is. Number 5 finds itself at the home of animal-lover Stephanie Speck. After she helps it satisfy its cravings for "input" (due to its malfunction), and explains the nature of life and death to it, Stephanie and the robot realize the power surge has brought the robot to life. The robot subsequently gains a respect for life, rejecting the destructive nature of its military programming and developing a fear of the disassembly that awaits it back at Nova, which it sees as akin to death.