Musculoskeletal Humanoid Robot

Coach: Masayuki Inaba
Stats: Kengoro can sweat — to keep the robot cool while he moves, water seeps through “pores” in his 3D-printed aluminum frame.
Hometown: University of Tokyo’s JSK Lab
Fun Fact: Kengoro can do push-ups for 11 minutes straight, swing a tennis racket, and stand on his toes.
Educational Robot

**Coaches:** Zee Dubrovsky, Raphael Cherney, and Radhika Nagpal

**Stats:** Root is a fun and easy-to-use educational robot that teaches coding, creativity and problem-solving skills to kids from pre-readers through high school.

**Hometown:** Root Robotics

**Fun Fact:** Root was supported by over 1,800 backers on Kickstarter.
ROOMBA® i7+
Coach: Colin Angle

Stats: The Roomba® i7+ Robot Vacuum with Clean Base™ Automatic Dirt Disposal automatically empties into an enclosed, disposable bag that holds 30 robot bins.

Hometown: iRobot

Fun Fact: The i7+ robot learns, maps and adapts to your home using Imprint™ Smart Mapping technology, letting you control which rooms are cleaned and when.
ROBOT ALL STARS

BUDDY

national robotics week

2010 - 2019
Coach: Rodolphe Hasselvander

Stats: Buddy is the first social robot that connects, protects, and interacts with each member of the family. He can connect to smart devices, give security alerts, and play with kids, among other talents.

Hometown: Blue Frog Robotics

Fun Fact: Buddy displays emotions and can even act grumpy in the morning.
Sleep Robot

Coaches: Philip Hess, Danny den Hartog, Wouter Kooymann Van Guldener, Julian Jagtenberg, and Stijn Antonisse

Stats: Somnox simulates breathing rhythms. Because your breathing naturally adjusts to another breathing pattern, this robot is able to slow down breathing to help people relax. It can detect movement and connects to a smartphone to help analyze your sleep patterns.

Hometown: Somnox

Fun Fact: Somnox can also play audio, such as white noise and audiobooks.
2019
ROBOT ALL STARS

SPOTMINI

national robotics week
Quadruped Robot

Coach: Marc Raibert

Stats: SpotMini is a small four-legged robot that comfortably fits in an office or home. It can climb stairs and handle objects with its 5-degree-of-freedom arm. Its perception sensors include stereo cameras, depth cameras, an IMU, and position/force sensors in the limbs.

Hometown: Boston Dynamics

Fun Fact: SpotMini has a “bigger brother” — a larger robot named Spot.
ROBOT ALL STARS

HIBOU & OWL
Asteroid Exploration Rovers

**Coach:** Tetsuo Yoshimitsu

**Stats:** HIBOU & OWL (MINERVA-II1A & MINERVA-II1B) rovers were developed to gather data and images of the asteroid “Ryugu.” They travel using a hopping mechanism that allows them to slowly jump across the low gravity asteroid.

**Hometown:** JAXA and the University of Aizu

**Fun Fact:** The rovers each remain in the air for up to 15 minutes after a single hop before landing, and move up to 50 feet horizontally.
OMNISKINS
Robotic Skin

**Coach:** Rebecca Kramer-Bottiglio

**Stats:** OmniSkins is made from elastic sheets embedded with sensors and actuators. It can be wrapped or affixed to a soft material, “animating” these objects by applying force to their surface, leading to distinct movements.

**Hometown:** Yale University

**Fun Fact:** In tests, the system allowed a stuffed toy horse to walk on all four legs and a foam cylinder to move like an inchworm.
**Coach:** Robert J. Wood

**Stats:** HAMR can walk on land, swim on the surface of water, and walk underwater. HAMR uses surface tension to swim and applies a voltage to break the water surface when it needs to sink, in a process known as “electrowetting.”

**Hometown:** Harvard Microbiotics Laboratory

**Fun Fact:** HAMR’s design was inspired by cockroaches.
Coaches: Andrea Thomaz, Vivian Chu, and Agata Rozga

Stats: Moxi is designed to help nurses and clinical staff with their non-patient facing logistical tasks such as delivering lab samples or gathering supplies for new patient admissions.

Hometown: Diligent Robotics

Fun Fact: Moxi is designed to be approachable and friendly, with an LED-lit face and soft voice.
Development Platform

Coaches: Ian Bernstein and Tim Enwall

Stats: Misty is designed to be the world’s most advanced, open robot platform that invites all developers to join in.

Hometown: Misty Robotics

Fun Fact: Misty can cruise around on her own, avoiding obstacles in her path...like a cat. She knows when there is a human and can learn who that person is. You can build all sorts of skills for Misty to make her do a variety of jobs for humans.
GT-OSV
Coaches: Fumin Zhang and Qiuyang Tao

Stats: GT-OSV is a small-sized surface vehicle featuring omnidirectional maneuverability, outstanding reliability, and power-efficient onboard artificial intelligence. GT-OSV is a perfect tool for aquaculture inspection, acoustic communication research, and marine robotics education.

Hometown: Georgia Tech System Research (GTSR)

Fun Fact: The robot can detect holes on the cage net or if fish escape.