ROOMBA

Vacuum Cleaning Robot

National **Robotics** WEEK

ROOMBA

Position: Vacuum Cleaning Robot

Coach: Colin Angle

Stats: Picks up pet hair, dust, allergens, and other debris; equipped with a dirt detection system and schedule function; also boasts cliff sensors and obstacle detection bumper; automatically docks and recharges itself

Hometown: iRobot Corporation

Fun Fact: Most popular consumer robot in existence to date; some owners buy outfits to dress up their Roomba; parodied in a skit on "Saturday Night Live"
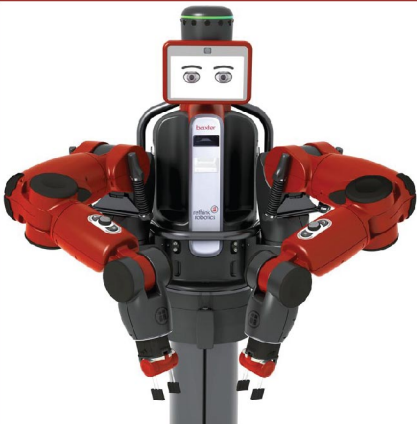
Learn More: irobot.com

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BAXTER

Friendly Assistant for Manufacturing

NATIONAL **Robotics** WEEK

BAXTER

Position: Friendly Assistant for Manufacturing

Coach: Rodney Brooks

Stats: An entirely new type of robot that redefines the way robots can be used in manufacturing environments; performs a variety of repetitive production tasks while safely and intelligently working next to people

Hometown: Rethink Robotics

Fun Fact: Boasts an electric parallel gripper with interchangeable "fingers" and user-adjustable "fingertips"

Learn More: rethinkrobotics.com

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BIGDOG

Rough-Terrain Robot & Military Pack Mule

NATIONAL Robotics WEEK

BIGDOG

Position: Rough-Terrain Robot & Military Pack Mule

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Coach: Marc Raibert

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Stats: Dynamic, quadruped robot that walks and runs on rubble, mud, snow, water, and ice; carries heavy loads up to 340 lbs.; works as a pack mule to assist soldiers by carrying gear and supplies

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Hometown: Boston Dynamics

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Fun Fact: Powered by a go-cart engine; a noisy robot, some people say it sounds like a swarm of killer bees; original development funded by DARPA

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Learn More: bostondynamics.com

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DA VINCI

Intuitive Surgical Assistant

NATIONAL **Robotics** WEEK

DA VINCI

Position: Intuitive Surgical Assistant

Coach: Gary S. Guthart

Stats: Designed for minimally invasive procedures; equipped with surgical tools with greater range of motion than the human hand; surgeon console boasts high-definition 3D vision system

Hometown: Intuitive Surgical, Inc.

Fun Fact: More than 2,500 have been installed worldwide; Johns Hopkins researchers used a da Vinci to play the Operation board game

Learn More: intuitivesurgical.com

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EKSO

Wearable Robotic Suit & Exoskeleton Trainer

National **Robotics** WEEK

EKSO

Position: Wearable Robotic Suit & Exoskeleton Trainer

Coaches: Russ Angold, Nathan Harding & Homayoon Kazerooni

Stats: Helps people with lower-extremity paralysis or weakness to stand up and walk; consists of a computer, lithium batteries, and small motors that power the user's legs

Hometown: Ekso Bionics

Fun Fact: Although Ekso weighs 50 lbs., the user doesn't support the weight — it is transferred into the ground through the exoskeleton
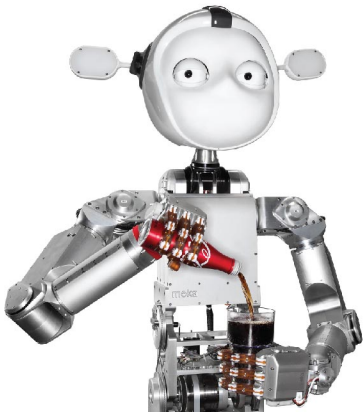
Learn More: eksobionics.com

SIMON

Home Service Robot & Companion

NATIONAL Robotics WEEK

SIMON

Position: Home Service Robot & Companion

Coach: Andrea Thomaz

Stats: Uses 37 degrees of freedom in total; communicates using speech, gestures, and eye gaze; learns concepts and motor skills from human demonstrations and interactions

Hometown: Socially Intelligent Machines Lab in the College of Computing at Georgia Tech

Fun Fact: Survived several injuries, including multiple broken wrists and his torso controller board bursting into flames

Learn More: robotics.gatech.edu

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HARVEY

Agricultural Helper & Materials Handler

NATIONAL **Robotics** WEEK

HARVEY

Position: Agricultural Helper & Materials Handler

Coaches: Joe Jones, Charles Grinnell & John Kawola

Stats: Designed for use in nursery and greenhouse facilities; using a laser range finder, gyro, boundary sensors, and wheel encoders, Harvey autonomously locates, transports, and organizes potted plants

Hometown: Harvest Automation, Inc.

Fun Fact: Early prototypes had rather limited electronics; in order to turn one off, engineers had to run after Harvey to try to flip a switch!

Learn More: harvestai.com

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*Autonomous Vehicle
for Gaming*

NATIONAL
Robotics
WEEK

ANKI DRIVE

Position: Autonomous Vehicle for Gaming

Coaches: Boris Sofman, Mark Palatucci & Hanns Tappeiner

Stats: Game featuring small robotic cars; uses artificial intelligence (AI) engine running on an iPhone to control cars; players race against each other or take on the AI

Hometown: Anki

Fun Fact: Creators met as Ph.D. students at Carnegie Mellon's Robotics Institute; pronounced "AHN-key," name means "to learn by heart" in Japanese

Learn More: anki.com

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ROBONAUT (R2)

Dexterous Humanoid
Astronaut Assistant

NATIONAL Robotics WEEK

ROBONAUT (R2)

Position: Dexterous Humanoid Astronaut Assistant

Coach: Ron Diftler

Stats: Humanoid sent to the International Space Station to help astronauts with various tasks; R2 can grasp objects, flip switches, and high-five crew members after successfully performing tasks

Hometown: NASA Johnson Space Center and GM

Fun Fact: In 2011, became first humanoid in space; with its head full of sensors, R2 only has enough room for a computer in its belly
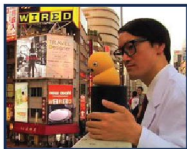
Learn More: robonaut.jsc.nasa.gov

*Social Robot & Autism
Research Helper*

National Robotics WEEK

KEEPON

Position: Social Robot and Autism Research Helper

Coaches: Hideki Kozima & Marek Michalowski

Stats: Interacts with people and dances when music is playing; used to engage with children in autism research; My Keepon is a toy version of the original research platform and available for purchase

Hometown: BeatBots

Fun Fact: A portion of proceeds from My Keepon sales go toward furthering autism research; Keepon appeared live on NBC's "Today Show" in 2009

Learn More: beatbots.net

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