



SANDEEP YAYATHI

ROBOTICS ENGINEER

DESIGNsquad
Nation



Sandeep is a robotics engineer. He works at NASA's Johnson Space Center in Houston, Texas. Sandeep designs and builds humanoid robots that can work alongside astronauts. His robots have a lot of dexterity, strength, and intelligence. In the video, he talks about how rewarding it is to be involved in the entire design process, from designing to building to testing robots.

CONVERSATION STARTERS

• **What are some ways that robots help astronauts?**

Astronauts can use robots to test whether an area is safe. Robots can also be given repetitive or boring tasks. This frees astronauts for more complicated work and experiments.

• **What are some reasons to make a robot human-like?**

Human-like robots can use the same tools, control panels, and workspaces that have already been designed for humans.

• **How do robots move, feel, and see?**

To move, they have small motors, pumps, and cables. To feel, they have sensors built into their surfaces. To see, they use video cameras.

• **Sandeep says that as a kid he fooled around with stuff at home. How might that help someone become a robotics engineer?**

By taking things apart and putting them back together, you learn what parts are used to make everyday objects and how the parts work together. You also become comfortable using tools.

DIGGING DEEPER

• **Robo Wheel Activity:** Rev up this monster wheel to race it or do freestyle tricks with it. Get it at: pbskids.org/designsquad/build/robo-wheel.

• **Engineer profile:** Debbie Theobald's robots rescue people from dangerous situations. Get it at: pbskids.org/designsquad/video/rescue-robot.

Visit the *Design Squad Nation* website at pbskids.org/designsquad.



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