



Who We Are What We Do

- Student design team at UA made up of many types of engineering students
- Compete annually in NASA's Robotic Mining Competition
- Challenged each year to create a robot with the task of traversing a simulated lunar surface to mine for gravel



What is an Engineer?

- Engineers are people who invent, design, and build things for a living
- Engineers are fundamentally problem solvers



Types of Engineering



Mechanical



Electrical



Civil



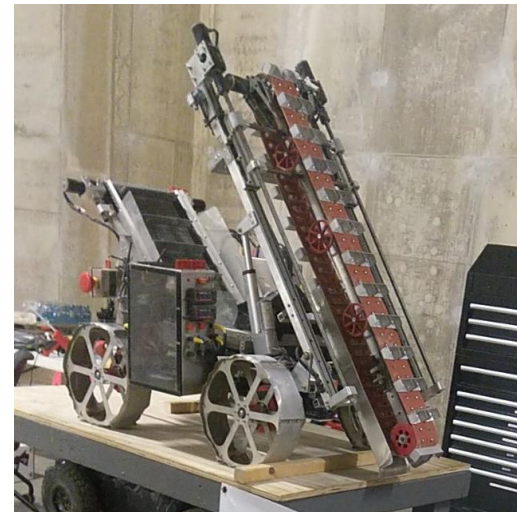
Chemical



Software

NASA and Extraterrestrial Mining

- NASA LUNABOTICS Competition
 - Limited to 50 University-level teams per year
 - Challenged each year to create a robot with the task of traversing a simulated lunar surface, including craters and rocks, to mine for resources
 - Robots can be teleoperated, autonomous, or some combination and are limited to certain size and mass constraints

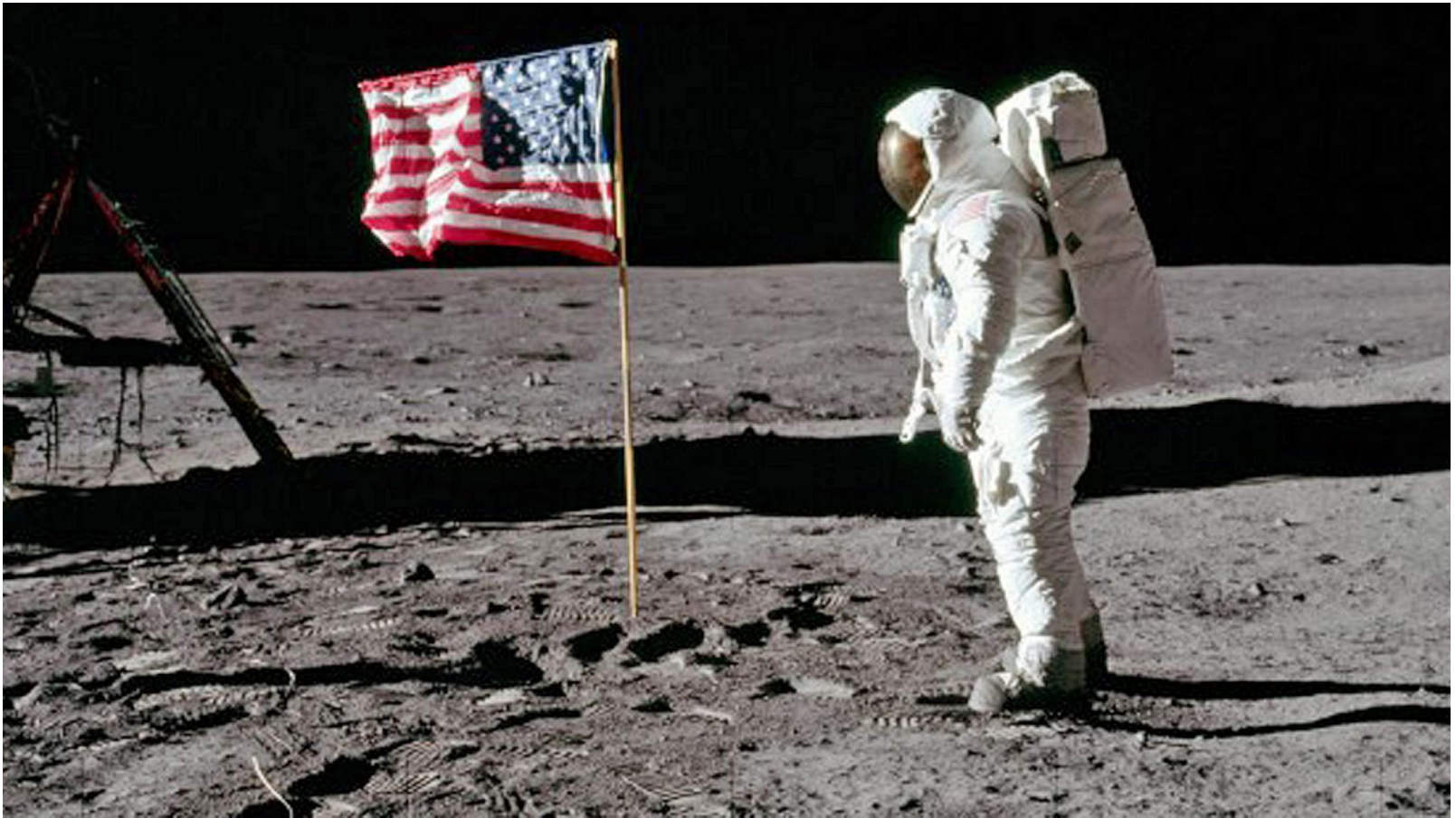


Why Mine on the Moon?

- NASA's Artemis Mission will send humans to the Moon for research
- Humans need water on the surface of the Moon
- ~\$4.5 million for a gallon of water
- Buried rocks on the South Pole have ice that can be used for water



Space Exploration



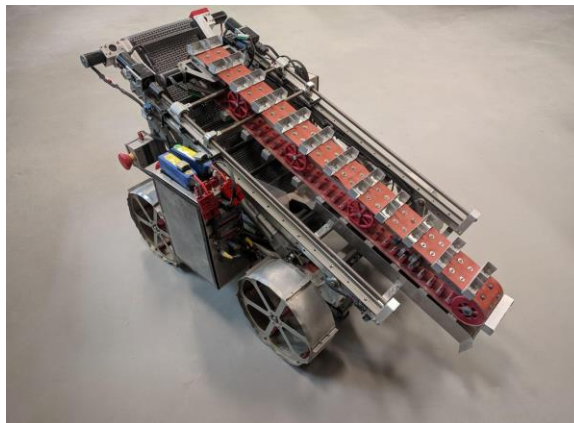
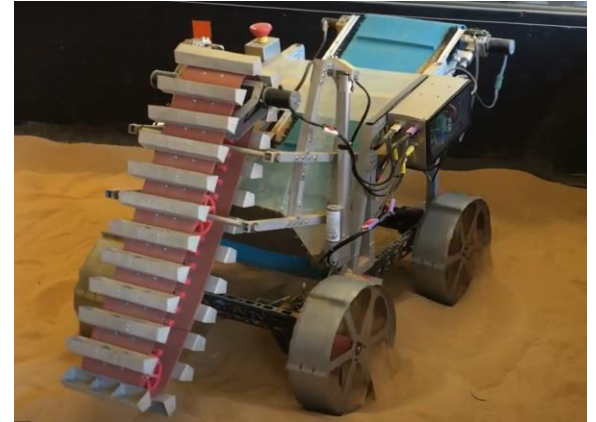
1969 Apollo 11 Moon Landing

Space Exploration



2021 Perseverance Rover Landing on Mars

Robots We've Built



NASA Competition Results



Competition Video



Q&A



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