

What does it take to be an Astronaut?

Since 1959, NASA has been selecting Astronauts with a competitive selection criteria, strong education, very specific technical & professional skills, and rigorous training.

Becoming an Astronaut is evidently a huge achievement as the number of applicants each year is numerous and the acceptance rate is below 1%.

The job of an Astronaut does not only involve travelling to Space but also, doing experiments, gathering data, collecting extraterrestrial samples, and conducting research.

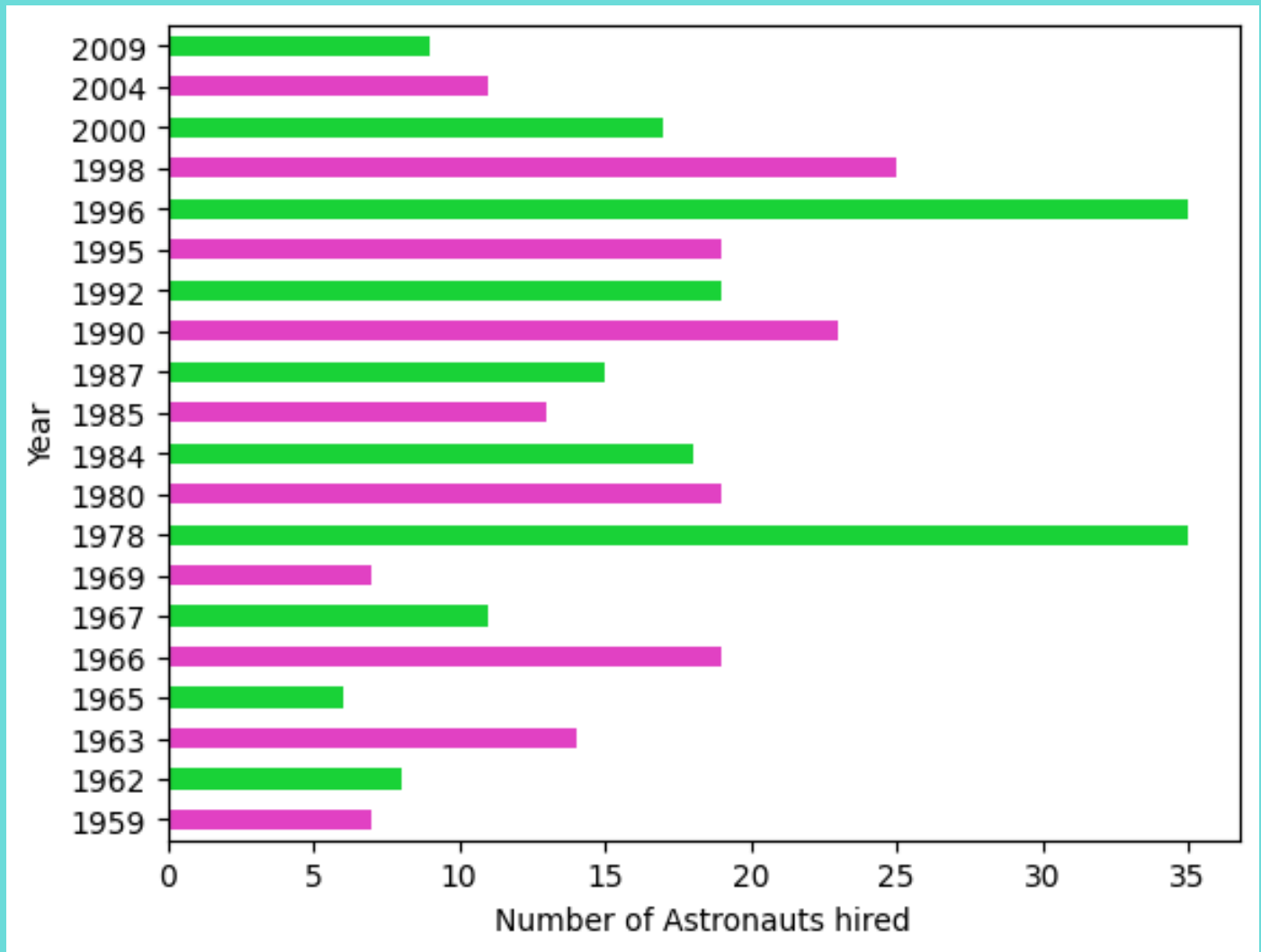
Astronauts applicants are assessed based on personal, physical, and educational qualities.

This dataset includes information about NASA Astronauts who got hired from 1959 till 2009.

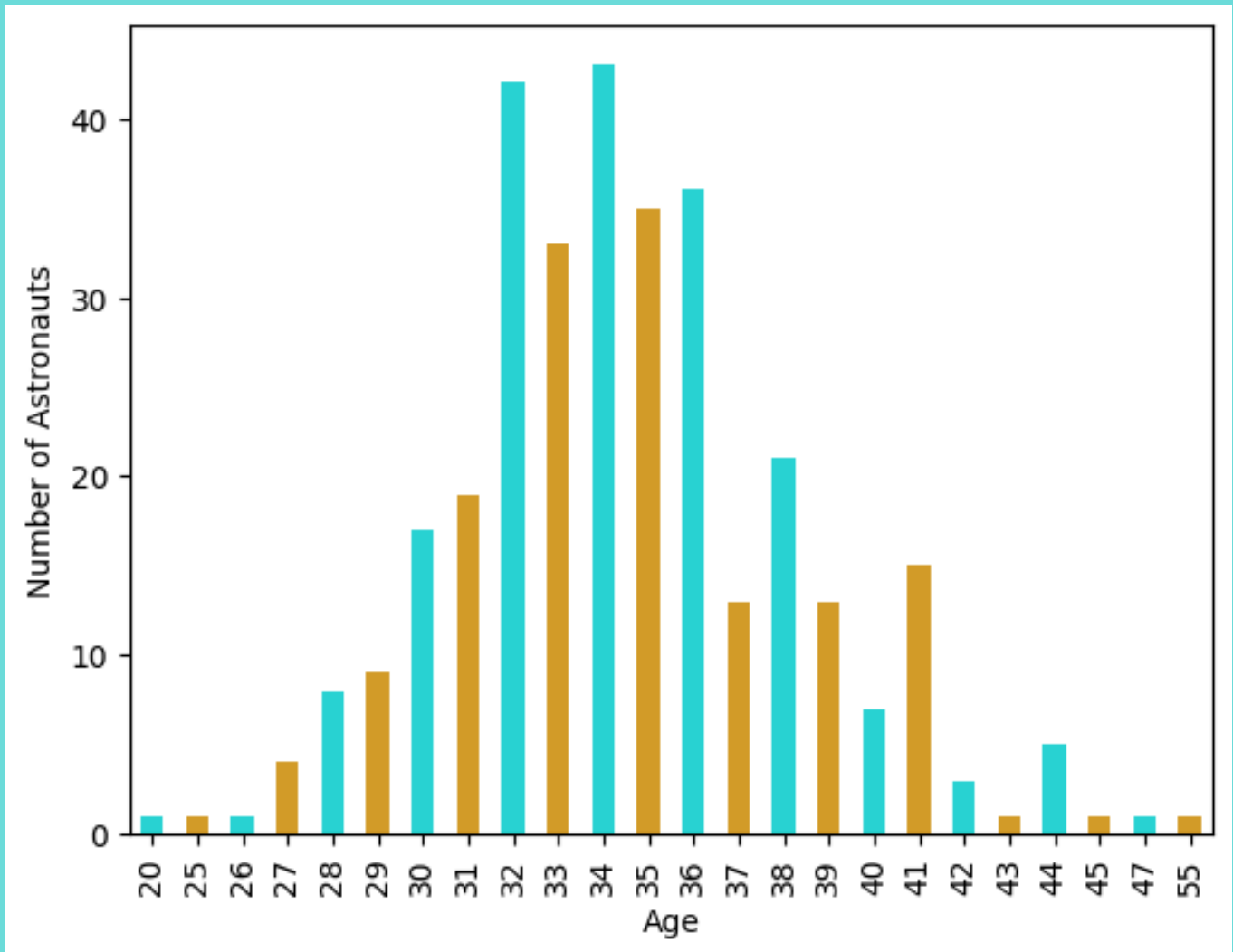
The analysis focused on identifying the common attributes among most Astronauts as well as their previous backgrounds.

Let's look into the insights!

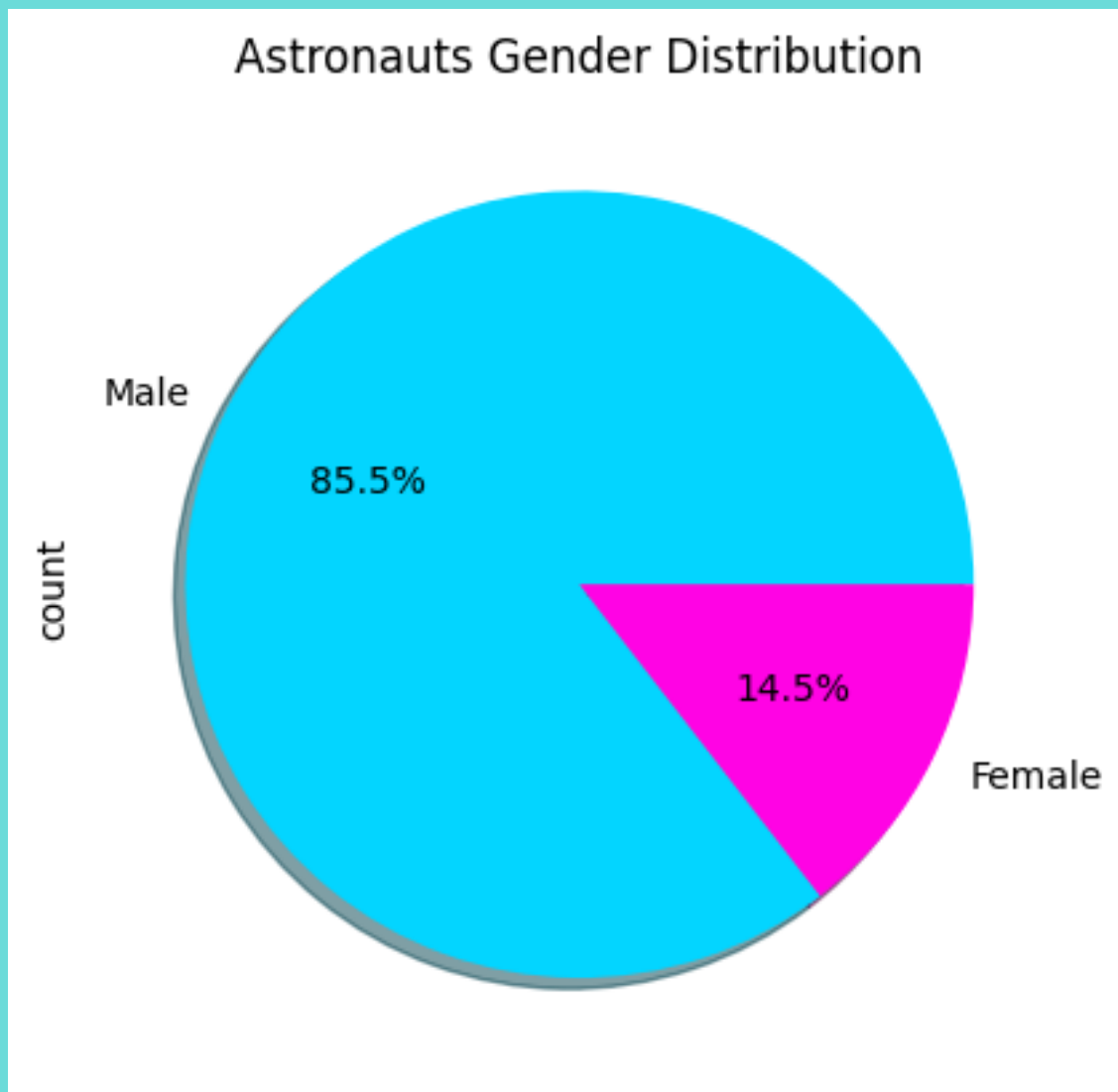
As each mission has different goals and therefore different requirements of applicants, the number of accepted applicants differ from a year to another. After analyzing the number of hired Astronauts each year, it was found that 1996 and 1978 had the highest number of hired Astronauts. It is significant those years had 35 Astronauts while all other years had relatively low numbers of hired Astronauts.



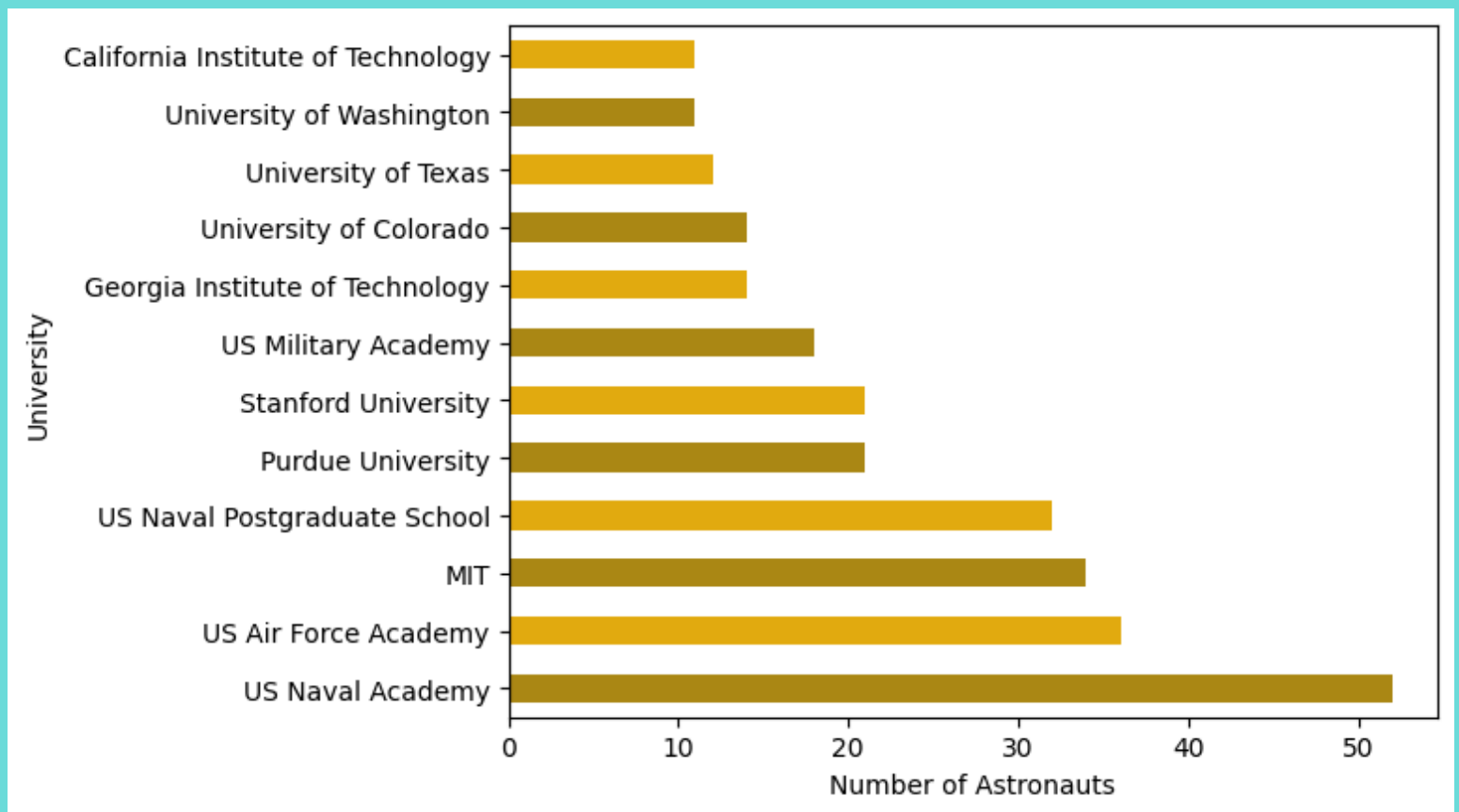
Since Astronauts always undergo extreme conditions physically such as the rapid change in pressure when flying to Space and the effect of Zero gravity, physical strength is one of the selection criteria for Astronauts. Zero gravity also known as weightlessness is encountered in Low Earth Orbit (LEO) such as the International Space Station as it is in a free fall. The graph shows that most Astronauts were in their thirties when they got hired. And that the average age of selected Astronauts is 34.



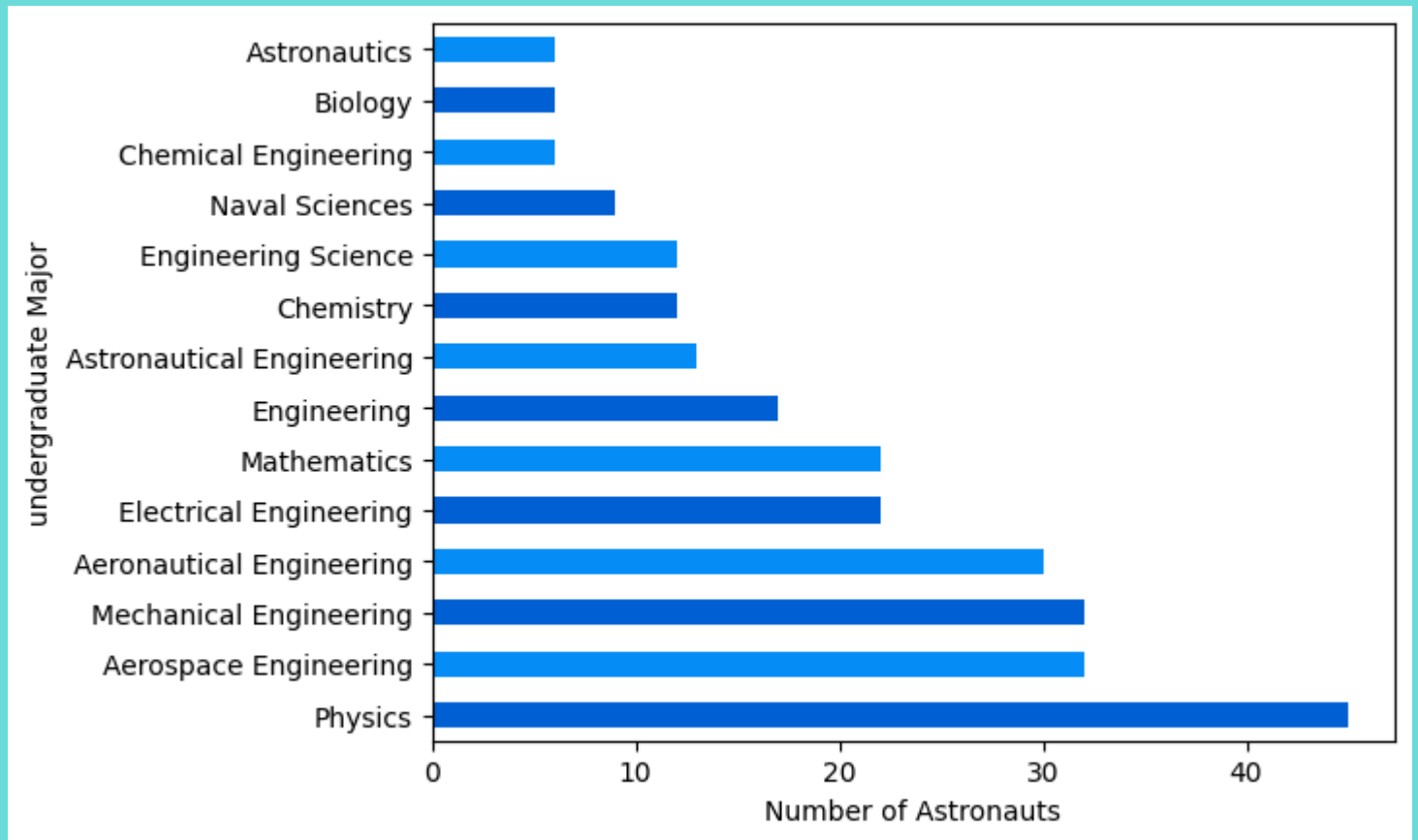
As the representation of Men and Women in any industry matters for future generations to motivate them to pursue the same path. Space missions should include more women to inspire young girls to be Astronauts and to decrease the gap between men and women in the Space field. The root cause of the low number of women Astronauts might be due to the low number of women in STEM which is below 30%



The type of education a person receives drastically affects their future aspirations, career, and opportunities. Thus, the Academy/ University that a person attends plays a role for being selected as an Astronaut. As each institution has a specific education system, and courses, therefore, graduates have different skills and qualifications. The data shows that Astronauts are mostly from the Military and this is because NASA previously required Astronauts who are pilots.



The degree received plays a role for filtering whether someone is capable of becoming an Astronaut. Of course, it is not the only criteria Astronauts are selected for however, it is important to know the potential of Astronauts in doing research and experiments as the Space field is wide, it requires strong knowledge from diverse backgrounds.



Finally, the Space industry has been changing since 2009. Thus these analyzes are not comprehensive about everything in the field in the meantime.

Space Exploration has increased a lot in the recent years as Space tourism started by many companies.

Space travel companies encourage more inclusive Astronauts as they select people from around the world and diverse backgrounds including non-STEM.

As more Space travel opportunities open, more developments will be done for Earth.

Being an Astronaut is not only about going to Space. It is about gaining experience and knowledge that will consequently benefit every one on Earth.

Astronauts dedicate all their lives to reach Space, they spend years learning and training to be ready, and risk their lives by traveling to unknown places.

So, in the end, the most important quality it takes to be an astronaut is courage 