

Margaret Hamilton



Born: 1936 (USA)

STEM field: Computer Software

Margaret Hamilton is a computer scientist. She worked for the Massachusetts Institute of Technology (MIT) while they were working on the Apollo Space Program. Hamilton designed software for Apollo 11 (the spacecraft used in the 1969 Moon landing). During the mission, Hamilton's software helped to prevent the Moon landing from being cancelled.

Did You Know?

Margaret Hamilton coined the widely-used term 'software engineering'.



Fei-Fei Li



Born: 1976 (China)

STEM field: Artificial Intelligence

Fei-Fei worked for Google Cloud and is a professor at Stanford University - one of the top universities in the USA.

Fei-Fei directed the creation of a database which taught computer systems to 'see'. This is used in machines such as self-driving cars.

Did You Know?

Fei-Fei is currently the co-director of Stanford University's Human-Centered AI Institute. She has been described as 'working at the intersection of neuroscience and computer science.'



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Grace Hopper



Born: 1906 (USA) – 1992 (USA)

STEM field: Computer Science

Grace Hopper was a pioneer of computer programming. She invented the first computer programming language to use English. She then created the first computer compiler, a machine which translated written instructions into codes that computers could read.

Grace gave lectures around the United States about computers, telling people that one day computers would be small enough to fit on a desk. At the time, they took up whole rooms.

Did You Know?

After a moth caused the malfunctioning of the Mark II computer, Grace coined the term 'bug' to describe an unexplained problem with a computer.

Jewel Burks Solomon



Born: 1990 (USA)

STEM field: Computer Vision Technology

Jewel was working for a company that provided replacement parts for machines. She noticed that some customers didn't know the names of the parts they needed so Jewel started her own company, PartPic, to help them with this. With Jewel's technology, customers could use an app on their phones to scan, recognise and order a part that needed replacing.

Did You Know?

In 2016, Jewel sold her company to Amazon, who now use it as part of their apps.



Marie Curie



Lived: 1867 (Poland) – 1934 (France)

STEM field: Chemistry and Physics

Together with her husband Pierre, Marie discovered the chemical elements polonium and radium. These two radioactive elements were capable of destroying human tissue and this discovery paved the way for the treatment of cancerous tumours.

Their work also led to the development of x-rays. During the First World War, Marie helped to equip ambulances with x-ray equipment and drove them to the front line herself.

Marie Curie died in 1934 from over exposure to radiation.

Did You Know?

Marie was the first woman to win a Nobel Prize and the only woman to win two Nobel Prizes in different fields. Her daughter, Irene, also won a Nobel Prize for Chemistry.



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Rosalind Franklin



Lived: 1920 (UK) – 1958 (UK)

STEM field: Chemistry

Rosalind is best known for her x-ray photographs of DNA. The most famous image led to the discovery of the DNA double helix which has helped scientists understand more about living things. Medical conditions can be treated more efficiently because of this. Rosalind also studied different viruses and worked with researchers from around the world.

Did You Know?

After Rosalind's death, three men won the Nobel Prize for their discovery of the double helix. Many people say Rosalind should be awarded a Nobel Prize posthumously (which means something given after a person's death).



Jane X Luu



Lived: 1963 (Vietnam)

STEM field: Astronomy and Astrophysics

Jane's work led to a huge change in our understanding of our Solar System. In 1992, Jane discovered the Kuiper Belt – bits of ice, rock and comets beyond Neptune that orbit the Sun. This discovery led to Pluto being declassified as a planet. It is now considered to be a dwarf planet.

Jane has won two of the biggest awards in astrophysics, the Shaw Prize and the Kavli Prize in Astrophysics. She also has an asteroid named after her, 5430 Luu.

Did You Know?

In 1975, Jane's family fled Vietnam due to the war that was happening there. They arrived in the United States as refugees. Jane excelled at science in school and won a scholarship to study physics at Stanford University.



Rachel Carson



Lived: 1907 (USA) – 1964 (USA)

STEM field: Marine Biology

Rachel helped to inspire the environmental movement by raising awareness of the damage pesticides were doing to ecosystems.

Rachel wrote several books, the most famous of which was called 'Silent Spring'. She warned that chemicals were harming the environment as well as causing cancer in humans.

Although many chemical companies tried to discredit Rachel's findings, eventually the US government accepted her recommendations and banned some pesticides.

Did You Know?

Rachel had a story published in a national children's magazine when she was only 10 years old. Her 1962 book *Silent Spring* produced such an impact that it is said that she opened the eyes of a nation (the United States) to environmental concerns.



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Katherine Johnson



Lived: 1918 (USA) - 2020 (USA)

STEM field: Mathematics and Astrophysics

Katherine is one of the women who helped to make NASA what it is today. During her 33-year career, she worked on the Freedom 7 project when Alan Shepherd became the first American to go into space. Katherine performed calculations to help work out when spacecrafts should be launched in order to make them land in the right place.

In 1969, Katherine worked on calculating the trajectory needed for the Apollo 11 moon landing. Katherine also worked on the Space Shuttle programme and created plans for a mission to Mars.

Did You Know?

Apollo 13 was due to land on the Moon in 1970. Due to an explosion in an oxygen tank, the crew had to abort their planned landing. It looked like the crew wouldn't manage to return to Earth and would die in space. Katherine's calculations were part of the mission to safely return the crew to Earth and her work was a success.



Ada Lovelace



Lived: 1815 (UK) – 1852 (UK)

STEM field: Mathematics

Ada is often considered to be the world's first computer programmer – before computers even really existed. She collaborated with fellow British mathematician Charles Babbage, who was later known as 'the father of computers'.

Ada's notes about the Analytical Engine, designed by Babbage to calculate and solve a range of maths problems, were republished in 1953. Her notes show she had recognised that a computer could also be used for art and musical purposes. By the time she died at the age of 36, she was working on a number of projects involving the link between music and mathematics.

Did You Know?

Ada Lovelace Day is celebrated internationally on the second Tuesday in October each year and recognises the achievements of women in science, technology, engineering and maths (STEM).



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