Influencial women in the world of IT

According to various sources, women represent only 16 – 19% of the IT workforce in the UK.

> Stereotypes and biases are likely a factor, but women have made significant contributions in the world of IT.

Let's celebrate their achievements and inspire the next generation of women in IT by telling the tales of some ladies who overcame obstacles and challenges to pursue their passion and innovation in the industry!

Superstar, scientist & war heroine!

Influencial women in the world of IT

Let's honour the incredible achievements of women who made significant contributions in IT

Ada Lovelace Considered the first ever computer programmer and a visionary for what programming and computers could eventually become.

Hedy Lamarr A talented actress and inventor who co-developed a frequency-hopping technology that enabled secure wireless communications and laid the foundations for Wi-Fi, Bluetooth, and GPS.

Radia Perlman A brilliant computer scientist and engineer who invented STP, a key algorithm for network bridges and Ethernet networks, and earned the nickname "Mother of the Internet".

Fei-Fei Li A pioneering professor in computer vision and AI, who created ImageNet, a large-scale dataset of images that revolutionised the field of computer vision and deep learning.

Shafi GoldWasser A renowned cryptographer and complexity theorist, who co-invented zero-knowledge proofs, probabilistic encryption, and several cryptosystems, and won the Turing Award for contributions to cryptography.



Ada Lovelace Programmer & IT visionary 1815 - 1852

Ada was born in the 19th century, a time when women were not encouraged or expected to pursue scientific or mathematical studies. She had to rely on private tutors and self-education to advance her knowledge and skills.

She faced many obstacles and challenges in her life, both personal and professional, but she never gave up on her passion and innovation for mathematics and computing.

She also faced scepticism and criticism from her peers and the public, who doubted her abilities or dismissed her work as irrelevant or impractical.

Despite these challenges, Ada Lovelace persevered and achieved remarkable feats in the field of computer science.

Ada Lovelace worked with Charles Babbage to create the Analytical Machine, a mechanical calculator that used punched cards. She wrote the first program for it and envisioned its future possibilities.

She is widely regarded as the first computer programmer and a visionary for what programming and computers could eventually become.

Hedy Lamarr Superstar actress & inventor 1914 - 2000

Hedy Lamarr was born in Vienna, Austria in 1914, and started her acting career in Europe to become one of the 40s most popular stars. But she was also a brilliant scientist, and war heroine!

She faced many challenges and difficulties in her life, such as being underestimated as a woman and an immigrant, exploited by the Hollywood system, going through six marriages and divorces and struggling with drug addiction and mental health issues.

Hedy Lamarr wanted to help the Allies during World War II. She met a composer named George Antheil, who shared her passion for inventions. Together, they came up with a new way of sending radio signals that could not be jammed or intercepted by the enemy. They called it frequency-hopping

spread spectrum, and it involved changing the frequency of the radio waves randomly and synchronizing them with a secret code.

They patented their idea in 1942, and offered it to the US Navy, who could use it to guide torpedoes without being detected. However, the Navy did not appreciate their invention at the time and did not use it until the 1960s. Later, their invention became the basis for modern wireless technologies such as Wi-Fi, Bluetooth, and GPS.

She died in 2000, at the age of 85, in Florida. She did not receive much recognition or compensation for her invention during her lifetime, but in 1997, she and Antheil were honoured with the Electronic Frontier Foundation (EFF) Pioneer Award, and in 2014, she was posthumously inducted into the National Inventors Hall of Fame. She is now widely regarded as a pioneer of both cinema and communication technology, and an inspiration for many women in STEM fields.

Radia Perlman The mother of STP

Radia Perlman was born in 1951 in the US and had a great passion for maths and computing, which she studied at MIT. She invented something called the Spanning Tree Protocol, or STP for short.

> STP is a way of making sure that computers can talk to each other without getting confused or sending the same message repeatedly. STP is very important for the field of IT and for society in general, because it allows computers to form networks that are fast, reliable, and efficient.

STP makes networks work better, and helps people communicate and collaborate with each other.

She was a woman in a field that was mostly dominated by men. She had to deal with discrimination, sexism, and stereotypes, and prove herself to be as good as or better than her male colleagues. She also had to balance her work and family life, as she had a husband and two children.

> She overcame these challenges by being confident, persistent, and passionate about her work.

Fei-Fei Li Legendary Al innovator

Fei-Fei Li is a computer scientist and a professor at Stanford University. She is known for creating ImageNet, a large-scale dataset of images that helped advance the field of computer vision and artificial intelligence. She is also a co-director of the Stanford Institute for Human-Centered Artificial Intelligence, which aims to develop AI that can benefit humanity and society.

Fei-Fei Li's work on ImageNet and computer vision has had a huge impact on the field of IT and society in general. It has enabled many applications and innovations that use computer vision, such as face recognition, self-driving cars, medical imaging, augmented reality, and more.

As an immigrant woman in a male-dominated and competitive field dealing with the complex and controversial issues of AI, Fei-Fei faced her fair share of difficulties.

Fast-forward to today and she has received many awards and honours for her inventions, such as being elected to the National Academy of Engineering, the National Academy of Medicine, and the American Academy of Arts and Sciences. She's also been named one of the 100 most influential people in the world by Time magazine in 2017.

Shafi Goldwasser Queen of cryptography

Shafi Goldwasser is an Israeli-American computer scientist who is a pioneer in cryptography, computational complexity, and probabilistic algorithms. She is a professor at MIT, the Weizmann Institute, and the Simons Institute. She won the Turing Award in 2012 for her contributions to the science of cryptography.

She encountered discrimination, sexism, and stereotypes as a woman and an immigrant in a field that was dominated and competitive by men, and she had to show that she was just as capable if not more

capable as her male counterparts.

She also had to cope with the complex and controversial issues of cryptography and AI, such as ethics, regulation, and social impact. The final challenge was to communicate her work to different audiences, such as policymakers, industry, and the public.

She overcame these challenges by being confident, persistent, and passionate about her work.

Her many awards and honours for her inventions and contributions make her a role model for many women and other underrepresented groups in STEM and Al.