

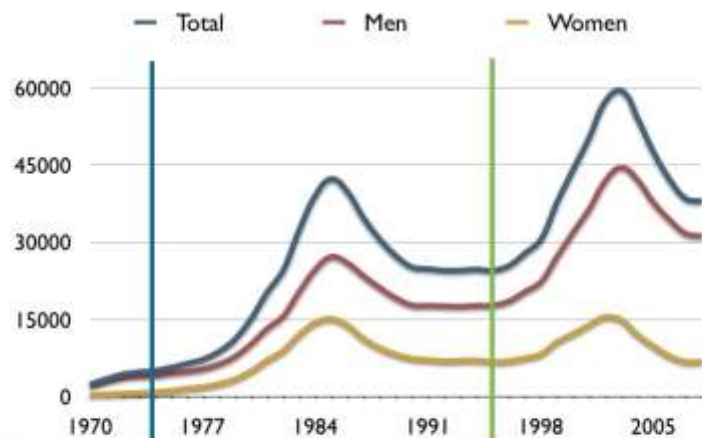
CISA LUNCH

Women and Computers in Documentaries, TV shows, Films



What happened To Women in Computer Science ?

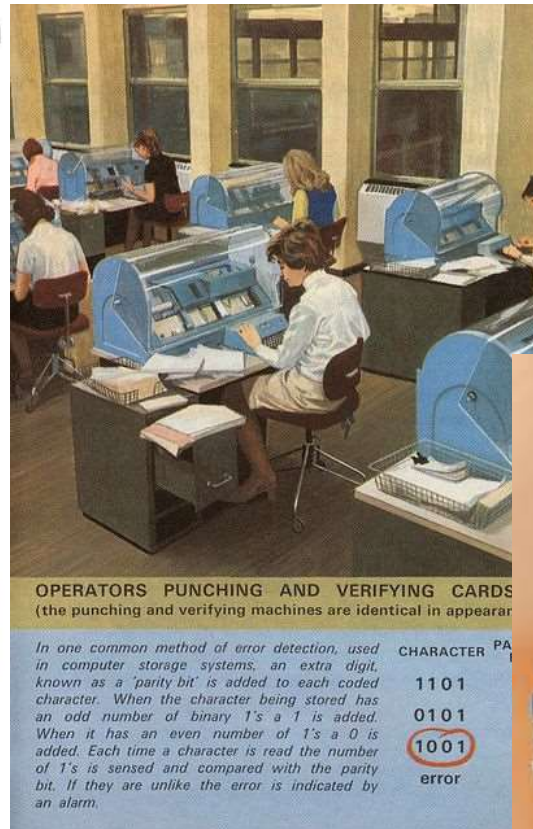
Degrees Awarded in Computer & Information Sciences in the United States



Personal Computer Introduced
Consumer Internet Introduced

Computer history women

- A lot of **computing pioneers were women**
- **Because WWII, early programmers were almost all women.**
- Back in the 1950s, coding software was considered women's work -- it's "like planning dinner!"
- **They simply saw computer programming as an easy job. !!**
- **Software was less important than the development of hardware.!!**

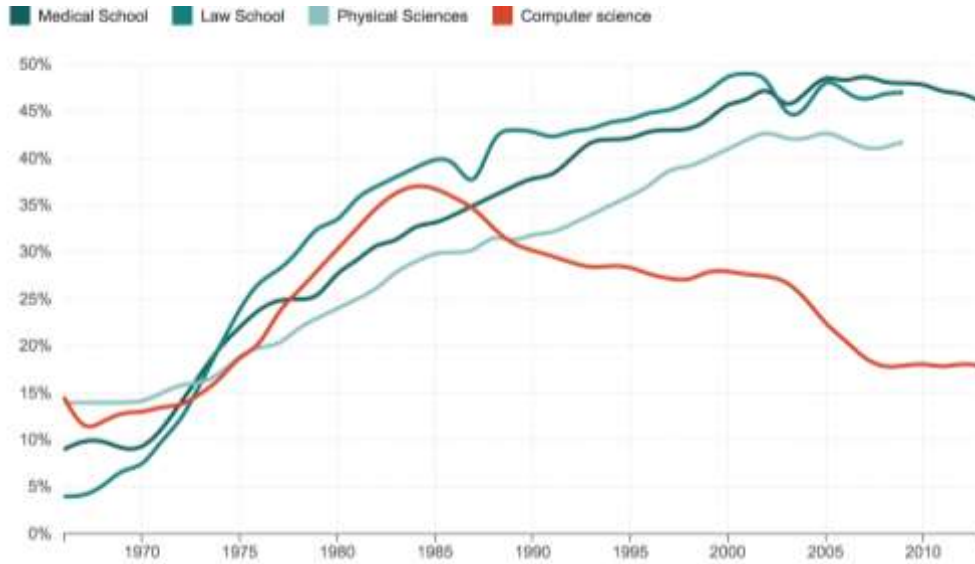


The Computer Girls

IT WAS 1946, a woman gets \$50,000 a year - a girl "computer" gets \$300,000 - and she's a machine operator. It's a strange world, but it's the world of the computer girls.



What happened To Women in Computer Science ?



% Of Women Majors, By Field

Source: National Science Foundation, American Association of Medical Colleges

Falling at roughly the same **moment when personal computers started showing up in homes (84)**

- Personal computers ~ toys
- Marketed to men and boys
- Helped to define geeks and created techie culture
- Families were more likely to buy computers for boys
- Boys grown up playing with computers

[Commodore C64 -1982](#)

Documentary 1985, "[Hackers - Wizards of the Electronic Age](#)" --> documentary about the midnight programmers that created the personal **computer revolution**.

Steve Jobs, Bill Gates, and Stephen Wozniak, etc ... -> **ENGINEERS**



Documentaries

- Ada Lovelace, **English mathematician**, famous for her work on Charles Babbage's early mechanical computer, **Analytical Engine**. Because of this, she is known as **the world's first computer programmer**.
 - *BBC Four: Calculating Ada: The Countess of Computing*, Documentary Films 2016 ([Trailer](#)) ([Program](#))
 - *Ada Lovelace: For All Time*, 2014. Play, [Broadway](#)
 - Movie!! Yeah!! *Conceiving Ada* – 1997, Tilda Swinton ([Trailer](#))
- ENIAC- Six women recruited in 1945 by the U.S. military to **program the first electronic general-purpose computer, ENIAC**, which was used to **calculate artillery trajectories** and perform the math to design and build the hydrogen bomb:
 - “*ENIAC Programmers*, directed by Kathy Kleiman, Jon Palfreman and Kate McMahon ([CLIP](#)) . Film: <http://eniacprogrammers.org/see-the-film/>
 - *Top Secret Rosies: The Female "Computers" of WWII* is a 2010 documentary directed by LeAnn Erickson ([trailer](#))



Frances Spence (left) and Jean Jennings (right) are among a group of six female programmers inducted into the Women in Technology Hall of Fame for their work on the ENIAC, an early computer built in 1946. The women had backgrounds in math, but their job also required physically managing over 3,000 switches to route the data. Many went on to develop computer storage capabilities and programming languages.

Documentaries

- Grace Hopper, American computer scientist, and United States Navy admiral. **Programmer pioneer** of the **Harvard Mark I computer**, and **invented the first compiler for a computer programming language**.
Debugging term
- ([CLIP1](#)) ([CLIP2](#)) ([CLIP3](#)) ([CLIP4](#))
 - [Check this: Born with Curiosity](#)
- Katherine Johnson, **NASA**, African American scientist who was in charge of calculating the **rocket's flight trajectory**. Her work was so trusted that, even after NASA had switched to computers, they would call on her to check for any mistakes”.
 - The Girl Who loved to Count ([CLIP](#))
 - Makers, ([CLIP](#))
 - MOVIE! Yeah!
- Margaret Hamilton, the **mathematician and computer science pioneer who took the Apollo to the Moon**
 - Software were easier and less important than developing hardware, so they gave all these jobs to women ([CLIP1](#)) ([CLIP2](#)) ([CLIP3](#))
 - Moon Machines: Software for the Apollo Mission: 72KB RAM ([CLIP3](#))
 - (Geeky fact: [Apollo 11 source code in GitHub](#))
- Many others (Sister Mary Kenneth Keller, first woman to receive a PhD in computers sciences in US)



Documentaries

- Inspiring women to empower computer science:
 - *She++ The Documentary* – Good Girl Gone Geek ([Program](#))
 - *The Code documentary* exposes the dearth of American female and minority software engineers and explores the reasons for this gender gap: ([Program](#))
 - 5 Films for girls and Women in Tech and entrepreneurship:
<https://hackbrightacademy.com/blog/documentaries-on-girls-women-coding/>
 - Creating a New Story about Women in Tech <http://sl-tc.com/creating-a-new-story-about-women-in-tech/>
- A lot of interviews, TED TALK, mini documentaries
 - Marisa Mayers (CEO Yahoo), Meg Whitman (President and Chief Executive Officer of Hewlett Packard Enterprise), Jennifer Pahlka (Co-funded Code for America)



Films

- Several Lists:
 - [20 Movies Every Hacker Should See](#)(blog)
 - [The Best Hacking & Computer Geek Movies](#)
(IMDB)
 - [List of films about computers](#) (Wikipedia)

What are some inspirational movies for programmers/software developers? ~ QUORA

- Entrepreneurship
 - The Social Network
 - **Halt and Catch Fire**
 - Silicon Valley
- Architecture/computing
 - Pi (1998)
 - Inception
 - The Thirteenth Floor
 - **Existenz**
 - A Scanner Darkly
 - Moneyball
- Thoughts/culture
 - Computer Chess
 - **The Matrix trilogy**
 - Die Hard : Live Free or Die Hard
 - **Her**
 - The Fifth Estate
 - Citizen Four
 - Tron / Tron Legacy
 - The Right Stuff (1983)
 - WarGames (1983)
 - Real Genius (1985)

Movies:

1. Source Code(2011)
- 2. The Imitation Game(2014)**
- 3. A beautiful Mind(2001)**
- 4. Enigma(2001)**
- 5. The Matrix series**
6. Live Free or Die Hard(Die Hard 4.0)
7. Inception
- 8. Hackers(1995)**
9. The Social Network(2010)
10. Pirates of Silicon Valley(1999)
11. Looper(2012)
12. The Turing Enigma(2011)

**SPOILER
ALERT**

Female roles Films 20's – 50's

False Maria- *Metropolis* - woman's robot duplicate, Metropolis remains a source of fascination



Altaria- *Forbidden Planet*- Daughter of Morbius , “Girl in danger”



Miss HoneyWell- *Pathe*- humanoid robot woman demonstrates the latest technological gadgetry from the computer division of Honeywell.



Idea of women as automatic homemakers or at least stay at home girlfriends

Female roles Films 50's, 60's

??- **2001: A Space Odyssey** - the main actors are all men, female actresses appear as flight attendants – “This film has the worst roles for women since *Destination Moon* (1950):”



Bunny Watson- DeskSet- Hepburn works in the reference department at a major TV network, and Tracy is the man who arrives to replace her reference library with a massive machine known as the EMERAC .



Female roles Films 80'S

Lisa - *Weird Science* - That's not a bad idea, making a girl."



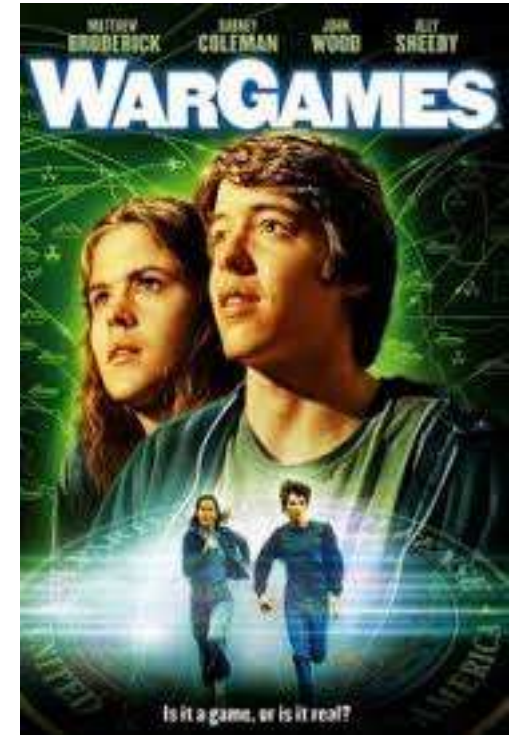
Rachel - *Blade Runner* – Replicant, male-created, fantasy women



Lora Baines - *Tron*- is a research engineer at ENCOM, the ex-girlfriend of Kevin Flynn and girlfriend of Alan Bradley.



Jennifer Mack – *WarGames* -- girlfriend



Awkward geek boys genius uses tech savvy to triumph over adversity and win the girl.

Female roles Films/Shows 90'S

Kate Libby – *Hackers* –
CyberPunk fantasy



Trinity– *Matrix*–black latex
outfit fan- 100100
00111111 011010



Willow Rosenberg – *Buffy*–
Shy, nerdy girl with little
confidence



Ellie Arroway-*Contact*–Radio Astronomer,
a woman driving a science fiction narrative
in any form is still a rare event

Female Characters Films/Shows 2000

Lisbeth Salander – *The Girl with the Dragon Tattoo series*
– Gothic Style



Cindy Mackenzie – *Veronica Mars*
– Apple's fan



Abby – *NCIS* -- skills in traditional forensics, computer forensics, and hacking-- Gothic



Penelope Garcia – *Criminal Minds*– Computer Technician, gamer



Films/Shows 2010 (I) – Scientists/ Strong women / Programmers

Leslie Winkle

– *Big Bang Theory*– Ph.D., is an experimental physicist, Scientist

Trenton and Darlene– *Mr*

Robot– F Society members, hackers. “She is better than you”

Murphy Cooper and Dr.

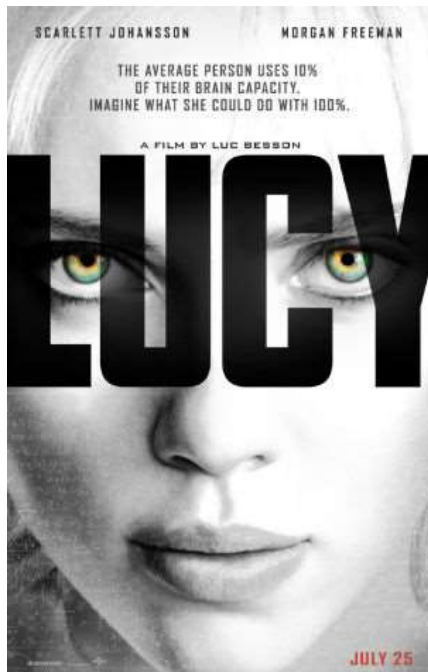
Amelia Brand– *Interstellar*–

Two female leads

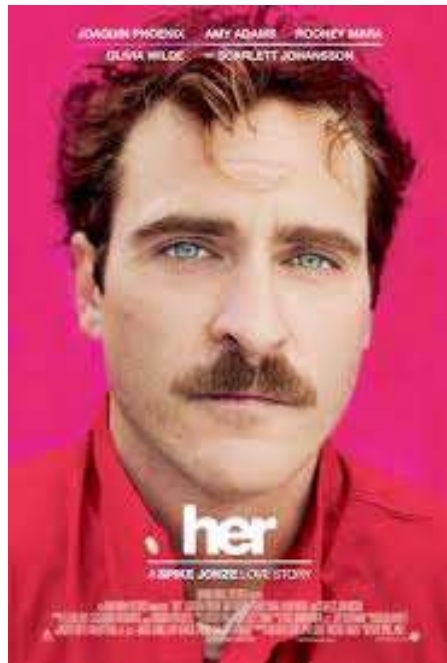


Films/Shows 2010 (II) – AI

Lucy – *Lucy* - a woman who gains psychokinetic abilities when a notropic drug is absorbed into her bloodstream.



Samantha– *HER* a talking operating system (OS) with AI, designed to adapt and evolve.



AVA– *Ex_Machina* , Promotion Fake tinder Profile. Turing test



Anita/Mia– *Humans*, is one of the sentient synths. Mather role.



Lee Weathers, Morgan – *Morgan*-- a stern and self-contained young woman, is a risk-assessment specialist from a company that funds research projects for creating artificial human beings.



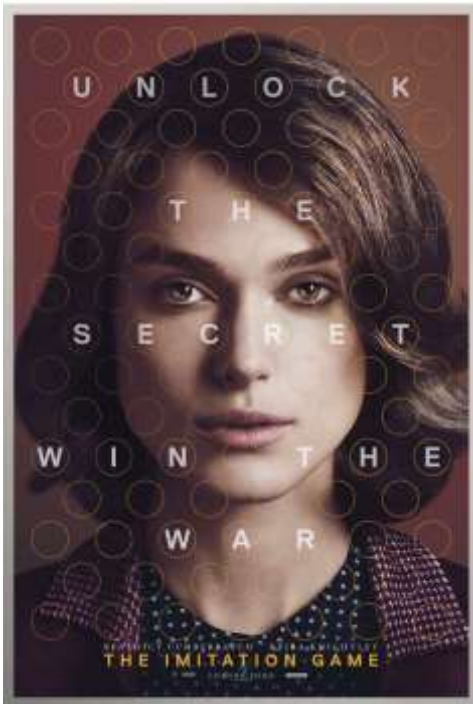
Films/Shows 2010 (III) – Recognizing the role of women in the past

Joan Clark – *The Imitation Game* – English cryptanalyst, numismatist, and code-breaker during the WWII

Cameron – *Halt and catch fire* – Coding expert, prodigy, nonconformist

Joanna – *Steve Jobs* – Marketing executive, one of the original members of both Apple Computer Macintosh and NeXT teams.

Katherine Johnson – *Hidden Figures* – Physicist, space scientist, and mathematician who calculated flight trajectories



Films/Shows 2010 (IV) – Computer Sciences Stereotypes

The IT Crowd



Silicon Valley



The Big Bang Theory



All of these shows portray still engineers as stereotypical nerds

SCI FI Females roles



Women of Science Fiction

Doctors, Leaders, Scientists,
Officers, Warriors, Strong,
Independent, Intelligent.



Women of Prime Time

Success (or) happiness is dependent on a man,
subservient, attached or constantly desiring
companionship, torpid.

Studies

- Journal of Integrated Studies, Vol 1, No 3 (2012), *Talking Nerdy: The Invisibility of Female Computer Nerds in Popular Culture and the subsequent Fewer Number of Women and Girls in the Computer Science.*
- International Journal of Gender, Science and Technology, Vol.6, No 2, *Making the invisible become visible: Recognizing women's relationship with technology*
- Bond Girls: Gender, Technology and Film
- Recording the Gender: Women's Changing Participation in Computing
- Computer science stereotypes as barriers to inclusion for women and how they extend to videogames
- Pioneering Women In Computer Sciences by Denise Gurer

Thank You



Priscilla – Blade Runner