

# Gender gap in FLOSS

A report on developments and the status quo

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# Discrimination in the tech industry

- GitHub: 14 million users
- Pull-request of females more often rejected
- Why is that?

# Discrimination in the tech industry

- Wikipedia: largest encyclopedia of mankind
- Most editors are male
- Acceptance rating on articles about females is low

# Implications?

- Missing information leads to lack of content variety
- Lack of content variety leads to bias
- Bias leads to discrimination

# Example: assistive devices

- Home assistance: Alexa, Google Assistant, etc.
- Apps: Siri, Cortana, etc.
- Google search



ada lovelace



All

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en.wikipedia.org > wiki > Ada\_Lovelace ▾

## Ada Lovelace - Wikipedia

Augusta **Ada** King, Countess of **Lovelace** (née Byron; 10 December 1815 – 27 November 1852) was an English mathematician and writer, chiefly known for her work on Charles Babbage's proposed mechanical general-purpose computer, the Analytical Engine.

**Known for:** Mathematics, computing

**Died:** 27 November 1852

**Resting place:** Marylebo...

**Resting place:** Church of St. Mary Magdalene,

**Born:** The Hon. Augusta Ada Byron

...

Decem...

[Charles Babbage](#) · [Analytical Engine](#) · [William King-Noel, 1st Earl of](#) · [Lady Byron](#)

### People also ask

What is Ada Lovelace famous for?



What did Ada Lovelace do for computers?



How did Ada Lovelace die?



What did Ada Lovelace create?



Feedback



More images

## Ada Lovelace



Mathematician

Augusta Ada King, Countess of Lovelace was an English mathematician and writer, chiefly known for her work on Charles Babbage's proposed mechanical general-purpose computer, the Analytical Engine. [Wikipedia](#)

**Born:** December 10, 1815, [London, United Kingdom](#)

**Died:** November 27, 1852, [Marylebone, London, United Kingdom](#)

**Full name:** Augusta Ada King-Noel, Countess of Lovelace

**Spouse:** [William King-Noel, 1st Earl of Lovelace](#) (m. 1835–1852)

# State of research interest

- Systemic bias: academically recognized
- New Media shift: Gender Gap is being researched  
in open source & open data

# Considerations / Limitations

- Most studies conducted in western world
- Most studies are user studies
- Not enough research on LGBTQ+ within Open Source / Open Data
  - We thus focused on the gender gap between male & female



# Wikipedia – Female editors

- 6 studies published 2008-2014 by Wikimedia Foundation
- Strongest estimate: 22% of editors are women
- Positive trend since 2011



# Wikipedia – Self-perception

- Helgeson et al.: difference between male & female self-perception & confidence
  - Why? Societal? Experiences?
  - Needs further research
- Hinnosaar et al.: gender gap due to difference in self-perception
  - Because of Wikipedia or rather external influence?
  - Needs further research

# Wikipedia – Conflicts with contributions

- Lam et al:
  - Female newcomer-editors more likely to quit Wikipedia after their edits get reverted
  - Articles with females dominating the edits are significantly more often subject to heated debates
- Conflicts → discomfort → demotivation → quitting

# Wikipedia – Notability criteria

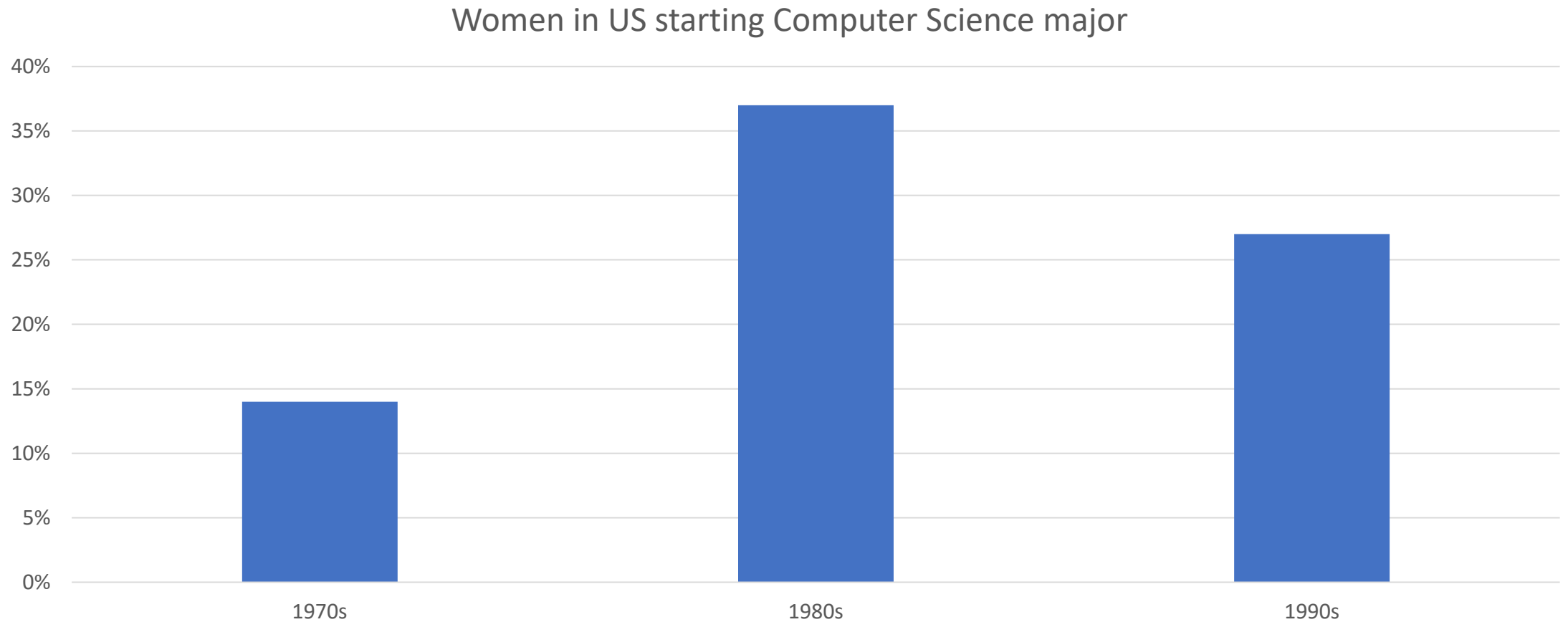
- Wagner et al.: acceptance criteria often unfavorable towards women
- Klein et al.: situation is getting considerably better
  - World is changing & it is reflected in Wikipedia

# How to combat the gender gap on Wikipedia?

## WE SUGGEST

- Be careful when reviewing edits of newcomers
  - Emphasize this in Wiki-guidelines
- Thank users for their contributions → strengthen self-esteem
- Encourage participation through female-focused info events

# Female Participation in Computer Science



# Stereotypes

- Examples: male-dominated, brilliant, nerdy, lack social-skills
- Media portrays computer scientists in a stereotypical manner
- Hypothesis: Women don't consider Computer Science careers because of stereotypes
- Stereotypes in childhood with occupation choice

# Social Barrier

- Personal
  - Hesitation in beginning a career in masculine field
  - Work-family balance?
  - Under-estimation
  - Put at disadvantage for displaying expertise
- Outside
  - People lack understanding of the field
  - Don't recommend because it's perceived more appropriate for men
- More likely to pursue CS when family supports it



# Role Models

- Lack of female role models nowadays
- Richest and most influential computer scientists usually men

# Exposure to Computers

- Financial situation
  - High-poverty school → little access to computers
- Gender
  - Difference in use of computers
  - Boys more likely to have access to computers
  - First experience with computers because of video games
  - Boys more likely to use computer for coding
  - Girls start using computer later

# Women in FLOSS

- Women make first contributions later in life
- 2010-2013
  - 39% new female contributors
  - 19% new male contributors
- Women code less