Thriving as a Woman in Science & Engineering

Real stories, tough truths, and what I wish someone told me sooner.

By: Olivia Wright

swe™ Society of Women Engineers

HARD HATS & HIGH HEELS

INTRODUCTION

- Alumna of KETTERING UNIVERSITY
- B.S. INDUSTRIAL ENGINEERING
- B.S. MANAGEMENT (Technology)
- From LEXINGTON, SOUTH CAROLINA
- Tactical Capacity Planner for MICHELIN
- Enjoys powerlifting, painting, baking, travelling, puzzles, binge-watching new shows and watching scary movies.

LEARNING OUTCOMES

- EXPLORE the groundbreaking contributions of women in engineering and how their legacy shapes the path forward.
- IDENTIFY common stereotypes and biases in STEM environments and learn actionable strategies to respond with professionalism.
- GAIN tools to build credibility, assert your voice, and lead effectively—especially when you're the most underestimated.
- ENGAGE in honest conversation, ask your burning questions, and leave with a personalized challenge to carry your legacy forward.

BREAKING THE MOLD: WOMEN WHO CHANGED ENGINEERING

UNSUNG FEMALE PIONEERS

Hedy Lamarr

- Famous *actress* and *inventor*—filed a patent in 1942 for frequency hopping
- Her work became the foundation for WiFi, GPS, and Bluetooth

Mary Barra

- GMI alumna & first female CEO of a major global automaker, General Motors (GM)
- Under her leadership: GM has made major shifts to electric and autonomous vehicles

Debbie Sterling

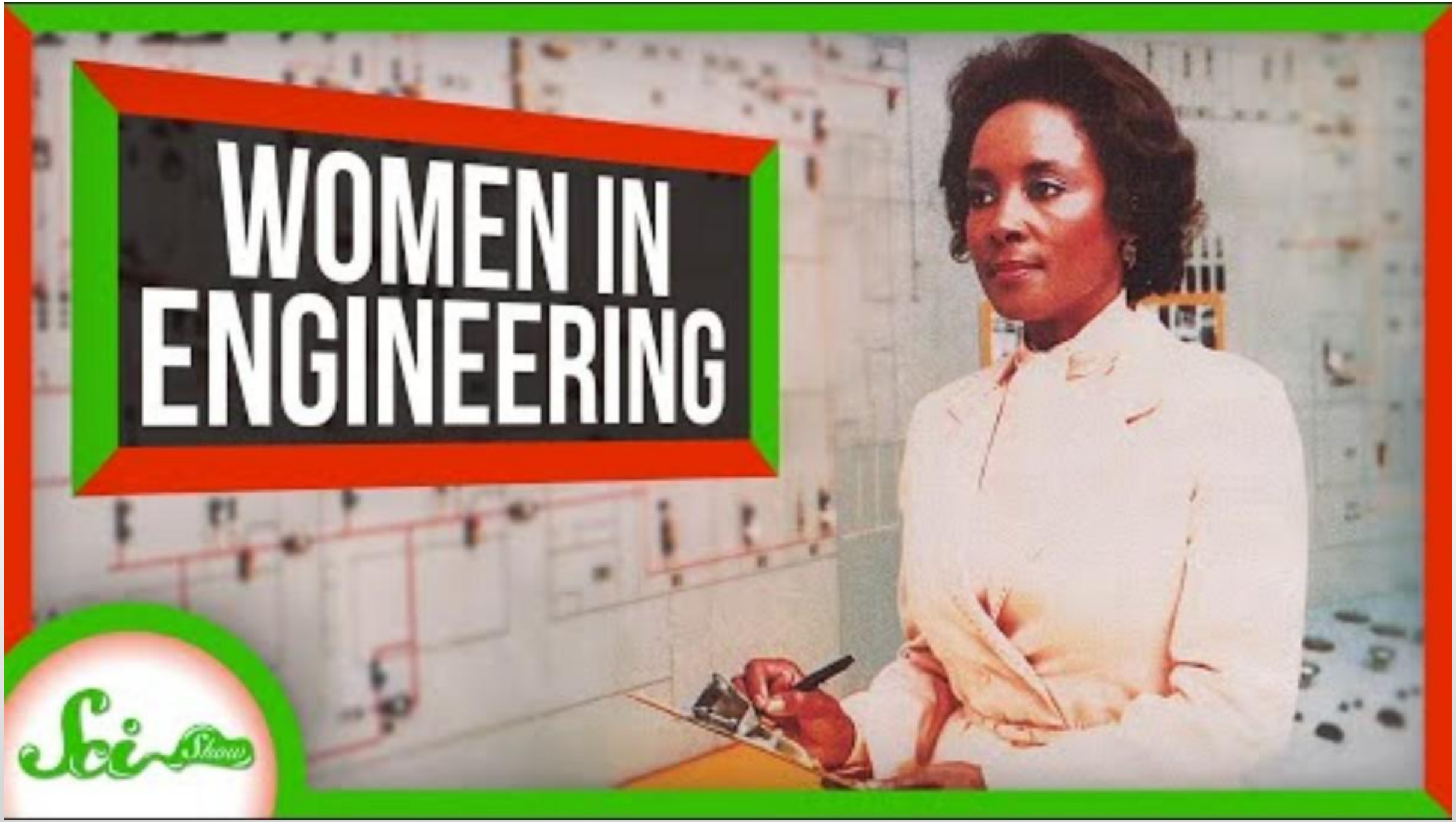
- Founded GoldieBlox, a company that uses toys to get girls excited about engineering
- Her viral Kickstarter video led to a Super Bowl commercial and a cultural movement

Lisa Su

- Electrical engineer and CEO of AMD, one of the world's top semiconductor companies
- Known for turning around AMD with bold innovation and leadership

JOURNAL PROMPT:

Have you ever been underestimated?
How did you respond?


WOMEN IN ENGINEERING
SciShow

JOURNAL PROMPT:

What do you want your engineering legacy to be?

WHEN WOMEN ARE
LEFT OUT

“The gender data gap isn't just about silence. These silences, these gaps, have consequences. They impact on women's lives every day.“

— Caroline Criado-Pérez, *Invisible Women: Data Bias in a World Designed for Men*

THE COST OF EXCLUSION

Crash Test Dummies and Car Safety

Personal Protective Equipment

Voice Assistants

AI Bias & Facial Recognition

Health Research Gaps

Workplace Ergonomics & Office Furniture

Fertility Tech & Medical Devices

Recruiting Algorithms

THE COST OF EXCLUSION

- Women are 47% more likely to be seriously injured in car crashes.
- Female test dummies weren't introduced until almost 50 yrs later.

Personal Protective Equipment

Voice Assistants

AI Bias & Facial Recognition

Health Research Gaps

Workplace Ergonomics & Office Furniture

Fertility Tech & Medical Devices

Recruiting Algorithms

THE COST OF EXCLUSION

Crash Test Dummies and Car Safety

- Ill-fitting gloves, harnesses, and jackets reduce safety and decrease productivity.
- Women often forced to modify or wear oversized gear, compromising safety.

Voice Assistants

AI Bias & Facial Recognition

Health Research Gaps

Workplace Ergonomics & Office Furniture

Fertility Tech & Medical Devices

Recruiting Algorithms

THE COST OF EXCLUSION

Crash Test Dummies and Car Safety

Personal Protective Equipment

- Lower accuracy for higher-pitched voices (women & nonbinary folks).
- Medical software, customer service bots, and auto tools perform worse for women.

AI Bias & Facial Recognition

Health Research Gaps

Workplace Ergonomics & Office Furniture

Fertility Tech & Medical Devices

Recruiting Algorithms

THE COST OF EXCLUSION

Crash Test Dummies and Car Safety

Personal Protective Equipment

Voice Assistants

- Many facial recognition systems have significantly lower accuracy for women and people of color.
- Consequences include misidentification in hiring tools, airport security, policing, and photo tagging.

Health Research Gaps

Workplace Ergonomics & Office Furniture

Fertility Tech & Medical Devices

Recruiting Algorithms

THE COST OF EXCLUSION

Crash Test Dummies and Car Safety

Personal Protective Equipment

Voice Assistants

AI Bias & Facial Recognition

- Historically, women were excluded from clinical trials, especially in the 70s–90s
- Even today, some drugs affect women differently due to metabolism, but dosing is based on men's biology

Workplace Ergonomics & Office Furniture

Fertility Tech & Medical Devices

Recruiting Algorithms

THE COST OF EXCLUSION

Crash Test Dummies and Car Safety

Personal Protective Equipment

Voice Assistants

AI Bias & Facial Recognition

Health Research Gaps

- Office chairs, desks, and keyboards were designed for the “average” male.
- Many women experience more back and wrist strain due to poor ergonomics.

Fertility Tech & Medical Devices

Recruiting Algorithms

THE COST OF EXCLUSION

Crash Test Dummies and Car Safety

Personal Protective Equipment

Voice Assistants

AI Bias & Facial Recognition

Health Research Gaps

Workplace Ergonomics & Office Furniture

- IVF, IUD insertion tools, and pain management for gynecological procedures are drastically under-tested.
- Many devices used on women were tested on male animals or male anatomy prototypes.

Recruiting Algorithms

THE COST OF EXCLUSION

Crash Test Dummies and Car Safety

Personal Protective Equipment

Voice Assistants

AI Bias & Facial Recognition

Health Research Gaps

Workplace Ergonomics & Office Furniture

Fertility Tech & Medical Devices

- Internal AI recruiting tools downgraded resumes with the word "women's" *(e.g. "women's coding club").*
- The algorithm learned from biased hiring data which was replicating past discrimination.

JOURNAL PROMPT:

Think of a time someone made an assumption about you. What did you learn from it?

STEREOTYPES & MICROAGGRESSIONS

DID THEY REALLY JUST SAY THAT?

"Put a man on the call, they'll take him more seriously."

"Sweetheart, can you grab us some coffee?"

"If she wanted to be taken seriously, she wouldn't dress like that."

"She only got promoted because she's a woman."

"Women are too emotional to lead high-stakes projects."

WHAT IS A MICROAGGRESSION?

A subtle, often unintentional comment or behavior that reinforces a stereotype or devalues someone based on identity.

Common Examples in STEM:

- Gendered Pet Names: *“honey” or “sweetie” (“sweetheart”)*
- Surprise at Your Competence: *“you’re actually really good at this!”*
- Assuming Roles: *“are you the HR contact?”*
- Undermining Authority: *“can we check with your manager on that?”*
- Invalidating Identity or Belonging: *”you don’t look like an engineer.”*

Stories of Women
WOMEN REACT
OUTDATED CLICHÉS

RESPONDING WITH CONFIDENCE

THE AIM FRAMEWORK

A – Acknowledge

Briefly call attention to the behavior or comment

"I know that probably wasn't your intention…"

I – Inform

Explain how it impacted you or could impact others

"…but when I'm called 'sweetheart' in a meeting, it undercuts my role and authority."

M – Model

Offer a more respectful way to engage going forward

"Let's keep it professional—Olivia works just fine."

BLUEPRINT FOR BELONGING

HOW TO START SHOWING UP

Start Where You Are	You don’t need to be the loudest, you just need to show.
Clarify Your Identity	What do you want to be known for? What are your strengths?
Use Your Tools	LinkedIn, email tone, meeting presence, etiquette, questions.
Let Your Work Speak For You	Don’t just do the work, make sure people see you doing it.
Confidence Doesn’t Come First	It’s built through action, feedback, and growth.
Speak Up Early, Even When You’re Nervous	It gets easier over time!

… AND SHOW UP WITH INTENTION

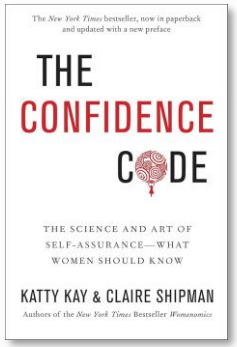
- You already have a personal brand, even if you haven't built it yet.
- You don't need to be loud to lead.
- If you don't define your voice, someone else will for you.

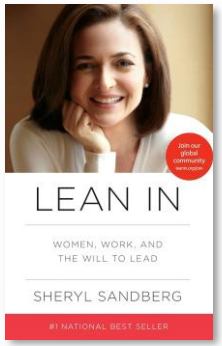
Table Discussion Prompt:

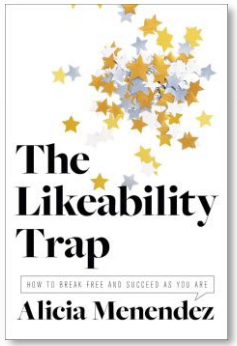
- *What do you want to be known for?*
- *What 3 words describe how you want people to see you?*
- *How do you currently show up — online, in meetings, or on campus?*
- *What behaviors/habits contradict the version of myself I want to build?*

RESOURCES TO KEEP GROWING

BOOKS







PODCASTS

ORGANIZATIONS

swe™
Society of Women Engineers
Aspire / Advance / Achieve

WOMEN WHO CODE®

BUILT BY GIRLS

FEM ENG
EMPOWERING WOMEN IN ENGINEERING

ANITA B.ORG

Girls™ in Tech

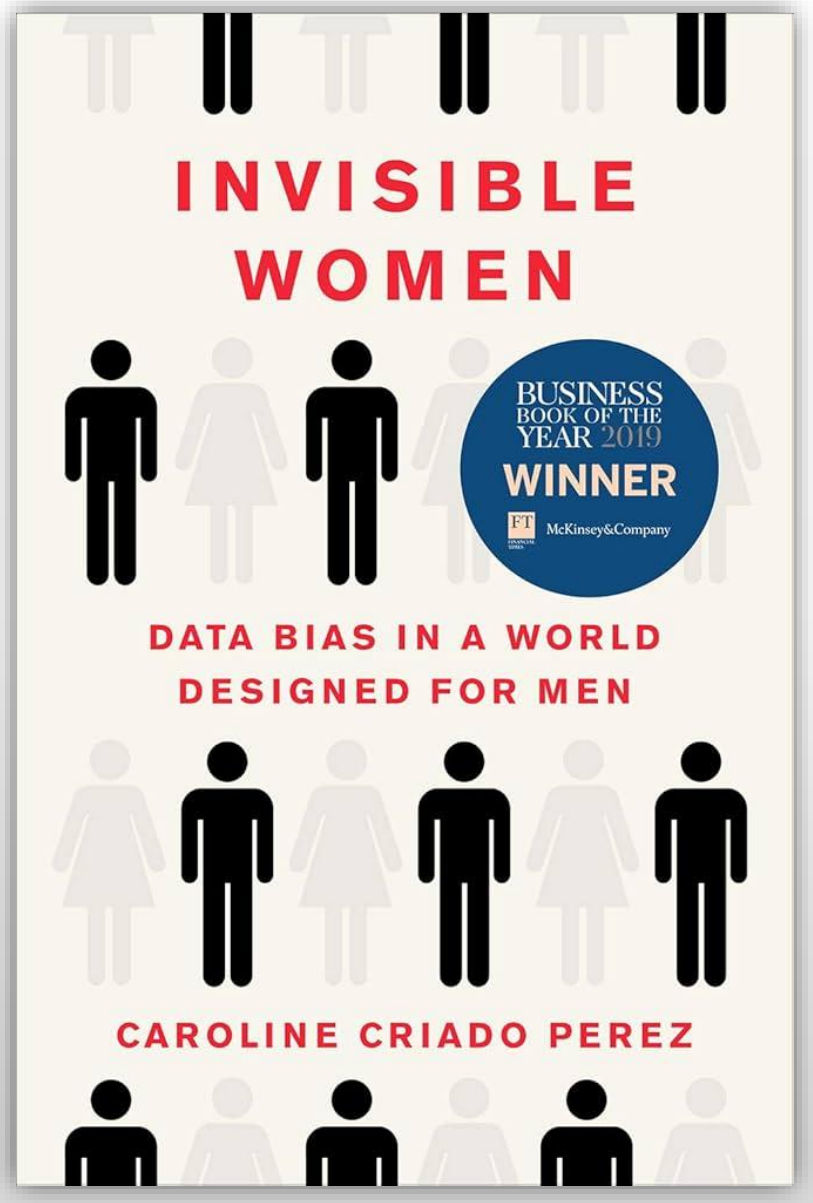
wogrammer

wim | women in manufacturing®

INVISIBLE WOMEN

"When we exclude half of humanity from the production of knowledge we lose out on potentially transformative insights."

— Caroline Criado Pérez, *Invisible Women: Data Bias in a World Designed for Men*



JOURNAL PROMPT:

Write a note to your future self. What do you want her to remember when she's doubting herself?

KEY TAKEAWAYS

- People will underestimate you. Let them and then deliver.
- Respect isn’t given; it’s reinforced with consistency and courage.
- Confidence is built in uncomfortable moments. Don’t run from them.
- Your background is not a weakness. It’s your blueprint.
- You don’t need permission to take up space. You already belong here.

JOURNAL PROMPT:

What’s one thing you’re taking away from today’s session?

THANK YOU!