CODING DIVERSITY into TECHNOLOGY

Michael Knight | President & CEO | Endries International
THE STATE of DIVERSITY in TECHNOLOGY TODAY
GENDER DIVERSITY in SILICON VALLEY

82% MEN / 18% WOMEN

INCLUDES DATA FROM MORE THAN 2,000 SMALL, MEDIUM & LARGE COMPANIES

LEVEL UP | San Diego | September 2023
Female Workforce Representation in Large Tech Companies

<table>
<thead>
<tr>
<th>Year</th>
<th>Portion of Women in Overall Workforce</th>
<th>Portion of Women in Tech Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>30.8%</td>
<td>22.4%</td>
</tr>
<tr>
<td>2020</td>
<td>31.5%</td>
<td>23.1%</td>
</tr>
<tr>
<td>2021</td>
<td>32.2%</td>
<td>24.0%</td>
</tr>
<tr>
<td>2022</td>
<td>32.9%</td>
<td>25.0%</td>
</tr>
</tbody>
</table>

San Diego | September 2023
### GENDER REPRESENTATION IN THE CORPORATE PIPELINE

#### % of Employees by Level

<table>
<thead>
<tr>
<th>Level</th>
<th>MEN</th>
<th>WOMEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTRY LEVEL</td>
<td>54%</td>
<td>46%</td>
</tr>
<tr>
<td>MANAGER</td>
<td>63%</td>
<td>37%</td>
</tr>
<tr>
<td>SR. MANAGER / DIRECTOR</td>
<td>67%</td>
<td>33%</td>
</tr>
<tr>
<td>VICE PRESIDENT</td>
<td>71%</td>
<td>29%</td>
</tr>
<tr>
<td>SR. VICE PRESIDENT</td>
<td>76%</td>
<td>24%</td>
</tr>
<tr>
<td>C-SUITE</td>
<td>81%</td>
<td>19%</td>
</tr>
</tbody>
</table>

WOMEN in TECH in 2023

2% female founders share of VC funding

3% black or African-American women in workforce; lower for Latinx

14% of software engineering workforce

15% average salary shortfall to men

27% of professional computing occupations vs 57% for total professional occupations

33% of tech-related workforce

34% of all STEM workers

Source: Deloitte, CNBC, Accenture, Statista, McKinsey, Society of Women Engineers, PEW
Additional source info embedded in slide notes
WOMEN in TECH in 2023

50% leave their job before age 35

+50% report harassment and sexism

52% women in tech rate their work/life balance as poor

52 women promoted to management for every 100 men

72% women report being outnumbered by men in meetings by at least 2-to-1

Source: Deloitte, CNBC, Accenture, Statista, McKinsey, Society of Women Engineers, PEW
Additional source info embedded in slide notes
BIOLOGY BEGET TECHNOLOGY AND TECHNOLOGY HAS BEEN PROGRESSIVELY INTEGRATING ITSELF WITH BIOLOGY EVER SINCE
BIAS LIVES IN ALL OF US, IS COMPLETELY NATURAL, IS AS OLD AS MANKIND ITSELF, AND IS THE MOTHER OF PREJUDICE, DISCRIMINATION, AND INJUSTICE.
IS BIAS HARDCODED INTO OUR DNA?  YES

- Evolved in small social groups
- Security, sustenance, shelter
- Offspring are an imperative
- The unknown is a threat until proven otherwise
- Your group is best
SURVIVAL INSTINCTS PROGRAMMED OUR FIRMWARE WHICH HARD CODES BIAS INTO OUR SOFTWARE

According to cognitive neuroscientists, we are conscious of only about 5% of our cognitive activity. Most of our decisions, actions, emotions, and behaviors depend on the 95% of brain activity that happens in our subconscious.

CORE CAVE MAN INSTINCTS BEHIND UNCONSCIOUS BIAS
Fear • Drama • Gap • Urgency
There are **over 180** cognitive biases that interfere with how we process data, think critically, and perceive reality.

- **Authority Bias**: We are more likely to trust and be influenced by ideas that come from authority figures.
- **Confirmation Bias**: This occurs when we warp data to fit or support our existing beliefs or expectations.
- **Sunk Cost Bias**: We are often influenced by past, sunk costs, which continue to distort our decisions.
- **Halo Effect**: Our overall impression of a person influences how we feel and think about his or her character.
- **Availability Cascade**: An idea accumulates more credibility as it spreads.

- **Dunning-Kruger Effect**: The less you know, the more confident you are.
- **Declinism**: We romanticize the past and believe that society and institutions are in decline.
- **Framing Effect**: We draw different conclusions based on how an idea is presented to us.
- **Bandwagon Effect**: Conforming to a widely held world view in order to fit in and minimize conflict.
- **False Consensus**: Overestimating the proportion of people who agree with an idea.
Humans are biased to learn from others in a way that promotes cooperation and collective problem-solving.

When learning biases were first evolving, morally and emotionally charged information was important to prioritize, as this information would be more likely to be relevant to enforcing group norms and ensuring collective survival.

Social media algorithms, designed to boost user engagement for advertising revenue, amplify the biases inherent in human social learning processes, leading to misinformation and polarization.

"Algorithm-mediated social learning in online social networks" by William Brady
WE ARE DRAWN TO AI-BASED SOCIAL MEDIA LIKE MOTHS TO A FLAME
2023 is the YEAR THAT ARTIFICIAL INTELLIGENCE MAINSTREAMED
ARTIFICIAL INTELLIGENCE CODED BY A BUNCH OF WHITE AND ASIAN GUYS WITH QUESTIONABLE EQ’S WHO ARE POUNDING RED BULLS AND MTN DEWS…

WHAT COULD POSSIBLY GO WRONG?
Artificial Intelligence, most often in the form of machine learning models due to their reliance on big data, reveals our biases through the patterns of interaction and forms of discrimination that we embed into it because we are unable to consistently be conscious of or eradicate our own implicit biases as we are creating these systems.
WILL AI BECOME THE GREAT EQUALIZER or WIDEN the INEQUITY GAP?

“AI has the potential of becoming the ‘great equalizer’ but only if the technology is readily accessible and designed for all. It must be developed in collaboration with public programs that address inequities in access to education, electricity, computing infrastructure and public health and welfare programs.”
In February, 8 month pregnant Porcha Woodruff was falsely arrested for an alleged carjacking and held in custody for 11 hours which triggered contractions.

Woodruff is the sixth person to report that she has been falsely accused of a crime because of a facial recognition match; all six people are black.
"In some cities, police are using artificial intelligence to predict where crimes might occur and to deploy officers and surveillance technologies accordingly. Courts in many states are using algorithms to set lengths of incarceration. Disfavored communities and people of color who historically have been targeted for government scrutiny too often bear the brunt of dangers posed by these new technologies. Worse, the data and algorithms used to make fateful decisions about people’s lives often are hidden from public oversight, making it difficult to test for bias and needed correction."
SOME BIAS IS BEING EXPLICITLY EMBEDDED INTO AI

Can you match the masculine and feminine names of our most popular AI assistants to the types of tasks we’ve assigned them?

Choice A: Watson or Einstein  Choice B: Alexa or Siri

Question 1: ____________, call me a taxi.

Question 2: ____________, review all customer complaints coming in from Asian countries for the past three months and tell me the top five issues we need to address.
“[Machines] will manipulate my beliefs about WHAT I SHOULD PURSUE, what I should leave alone, whether I should want kids, get married, FIND A JOB, OR MERELY buy that handbag.”

- Heather Roff, ASU
ONLY 15% of FACEBOOK AI RESEARCHERS ARE WOMEN

ONLY 12% of ALL MACHINE LEARNING RESEARCHERS ARE WOMEN

ONLY 10% of GOOGLE AI RESEARCHERS ARE WOMEN

ONLY 22% OF PROFESSIONALS WITH AI SKILLS ARE FEMALE, A GENDER GAP 3X LARGER THAN THAT IN OTHER INDUSTRIES

Source | World Economic Forum Report & Element AI

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UPDATE FROM THE C SUITE

-5% Decline in SVP Roles from High of 18%

10% C-Suite Roles Occupied by Women

-27% Pay Cut for Women CEO’s Versus Men Who Saw a +1% Increase

5.5% Percent of the 3,000 Largest American Firms with a Women CEO

source | CompTIA
WHEN IT COMES TO WOMEN’S CAREER ADVANCEMENT, PERCEPTIONS MATTER

Men say the biggest challenges are....

- There are too few qualified women in the pipeline (21%)
- Women are judged by different standards (14%)
- Women don’t receive as much sponsorship (12%)
- Women are less likely to be promoted to 1st-level manager roles (7%)
- Women are leaving the workforce at higher rates than men (5%)
- Women are less likely to aspire to be in management (5%)
- Women are less willing to do what it takes (3%)

Women say the biggest challenges are....

- Women are judged by different standards (40%)
- Women don’t receive as much sponsorship (32%)
- Women are less likely to be promoted to 1st-level manager roles (19%)
- There are too few qualified women in the pipeline (13%)
- Women are leaving the workforce at higher rates than men (6%)
- Women are less likely to aspire to be in management (6%)
- Women are less willing to do what it takes (3%)

FOURTUNE 500 WOMEN CEO COUNT IS CLIMBING

<table>
<thead>
<tr>
<th>Year</th>
<th>Count</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>1972</td>
<td>1</td>
<td>[the 1st]</td>
</tr>
<tr>
<td>1998</td>
<td>10</td>
<td>[0.2%]</td>
</tr>
<tr>
<td>2013</td>
<td>21</td>
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<tr>
<td>2023</td>
<td>52</td>
<td>[10.4%]</td>
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Priscilla Almodovar
Fannie Mae

Karen Lynch
CVS

Carrie Wheeler
Opendoor
THE ONLY TECH COMPANY IN THE WORLD WITH A PREDOMINANTLY FEMALE WORKFORCE

EMPLOYEES 53%
LEADERSHIP 38%
ENGINEERS 28%
RESEARCHERS 60%

Anne Wojcicki

source | company website
32.5% of Top 150 Silicon Valley Company Board Members are Women
"The mere presence of diversity in a group creates awkwardness, and the need to diffuse this tension leads to better group problem solving.”

- Dr. Katherine Phillips, Columbia University

"One of the challenges when we talk about digital transformations is that it makes the people disappear, but unless you put the people in the center of the story, it’s never successful.”

- Dr. Genevieve Bell, Australian National University

Teams makes better decisions than individuals 66% of the time
For gender and ethnically diverse teams this jumps to 87%
THE BUSINESS CASE FOR GENDER EQUALITY

A growing body of research links greater gender diversity and equality on teams and in corporate management to **more innovation** and **better financial performance**

Source | McKinsey “Woman in the Workplace” 2022

Gender diversity and equality also contributes to stronger morale, better employee satisfaction, improved reputation, and better teamwork.
S&P 500 10 YEAR RETURNS
WOMEN LED COMPANIES OUTPERFORM
The POWER of PARITY: ADVANCING WOMENS’ EQUITY in the U.S.

$4.3\ trillion$

of additional annual GDP in 2025 could be added in the United States by fully bridging the gender gap in the workplace. This is $19\%$ higher than business-as-usual GDP in 2025.

$2.1\ trillion$

could be added in 2025 by matching the rate of progress of the best-in-class state towards gender parity in work, an increase of $10\%$ compared with business-as-usual GDP in 2025.

Achieving the $2.1\ trillion would mean

6 million

more high-productivity jobs for women in 2025

55%$

of GDP impact from the top 10 states$^1$

>5%

incremental GDP opportunity for each state

Source | McKinsey & Company 2021
SHOULD COMPANIES HAVE SOCIAL RESPONSIBILITIES? OR DO THEY EXIST ONLY TO DELIVER PROFIT TO THEIR SHAREHOLDERS?
THE PATH FORWARD TO GENDER DIVERSITY and EQUALITY in TECHNOLOGY

Acceptance and Understanding

Measure, Publicize, and Celebrate Progress

Acknowledge, Own and Address Bias

Build and Fill a Pipeline of Diverse Talent

Retain and Advance that Talent
Make the case for diversity with your leadership

Make real the business advantages

Be objective and realistic about bias in your company cultural

Deliberately hire for diversity as well as talent

Deliberately be inclusive and invest in the infrastructure to nurture and support diversity

Progress creates momentum and momentum makes everything easier