### **Topic: Inclusive Computing: Accessibility & Minorities in Computing**

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### **Inclusive Computing: Bridging Access** & Representation – A Global View

We'll explore:

Topic's 1 Importance



**Global accessibility** policies & success stories

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**Current data on minority** participation in CS



**Intersection: when gaps** collide



# Why this Topic?

**Tech-access gap** — In 2024 93 % of people in high-income countries are online, but only 27 % in low-income countries; 2.6 billion people remain offline.

**Representation gap** — Globally women earn ≈ 40 % of CS degrees; in the U.S. tech workforce Hispanic + Black professionals total 24 %









# Accessibility around the world

### India

#### 2024-25 milestone

GIGW 3.0 now requires every federal site & app to meet WCAG 2.1 AA.

### Why it matters

Legal floor for 1 B+ citizens' e-services.

### EU

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#### 2024-25 milestone

European Accessibility Act takes effect 28 Jun 2025 for banking apps, e-commerce, e-readers.

### Why it matters

Harmonises rules across 27 countries.

### Kenya

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#### 2024-25 milestone

NGO inABLE has built 8 assistivetech computer labs, training 14
500+ blind & low-vision students..
Federal e-MAG 3.1 aligns gov-site rules with WCAG 2.0; mandatory for every ministry portal..

#### Why it matters

Low-cost, high-impact Global-South model.

### Brazil

#### 2024-25 milestone

### Why it matters

First LatAm nation with nationwide web-access standard.







### Minorities & Computers worldwide Current numbers:



**CGlobal pipeline** Women = 40 % CS grads (still < parity).



### Brazil

women form < 15 % of ICPC programmingmarathon contestants.





### **U.S. workforce**

STEM jobs = 35 % women, 15 % Hispanic, 9 % Black, <1 % Al/AN.

### Trailblazers to know

### CLARENCE "SKIP" ELLIS

first Black CS Ph.D.; groupware pioneer.

### DR FEI-FEI LI

ImageNet & AI4ALL diversity NGO

### IRENE MBARI-KIRIKA (KENYA)

founded inABLE, scaling inclusive labs.

### DR RONALDO LEMOS (BRAZIL)

Co-authored Marco Civil internet bill.



The future of work isn't about AI replacing humans but about humans and AI collaborating. AI enhances human capabilities, freeing us to focus on higher-level tasks and creative problem-solving.



### Girls in Tech Perú

partners with universities to run WCAG hackathons (2024 pilot).

# Intersection: when gaps collide

Education and training systems need to evolve to prepare students for an AI-driven world. This involves incorporating AI into learning and equipping students with the skills they need for the future of work.

### **NVDA** case

A 2025 audit found popular coding IDEs unusable by NVDA without tweaks; blind students in Nairobi and Detroit hit the same blocker

Proprietary eye-tracking rigs =  $\approx$  US \$2 000; open-source OptiKey + Raspberry Pi = < \$50 – huge equity win.

### **Deaf Developers**

Lack of caption budgets sidelines Deaf developers in online boot-

camps.

### **Skills for the Future**

# Key takeaways

The AI-driven economy will bring significant challenges and opportunities. It's crucial to prepare by understanding the implications of AI and developing the necessary skills and adaptability.

### The digital divide isn't abstract

it's a 66-point gap. Only 27 % of people in low-income countries are online vs. 93 % in high-income nations.

### Access ≠ Accessibility.

Even where broadband exists, 95 % of top sites still fail basic WCAG checks (WebAIM 2025).

### **Representation drives** better tech and bigger markets

Mixed-gender teams file 20 % more usable patents (NCSES 2024). Diverse groups catch usability bugs 30 % faster (Google DevRel internal

study 2023).



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