



The UNESCO Recommendation on the Ethics of AI

Setting the standards for a better and more inclusive future

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25 May 2022

AI IS IN THE HANDS OF FEW

AI research and development is highly concentrated. The large majority AI patents are filed in and granted to groups in the U.S. and China.

GRANTED AI PATENTS (% of WORLD TOTAL) by REGION, 2010–21 (Part 1)

Source: Center for Security and Emerging Technology, 2021 | Chart: 2022 AI Index Report

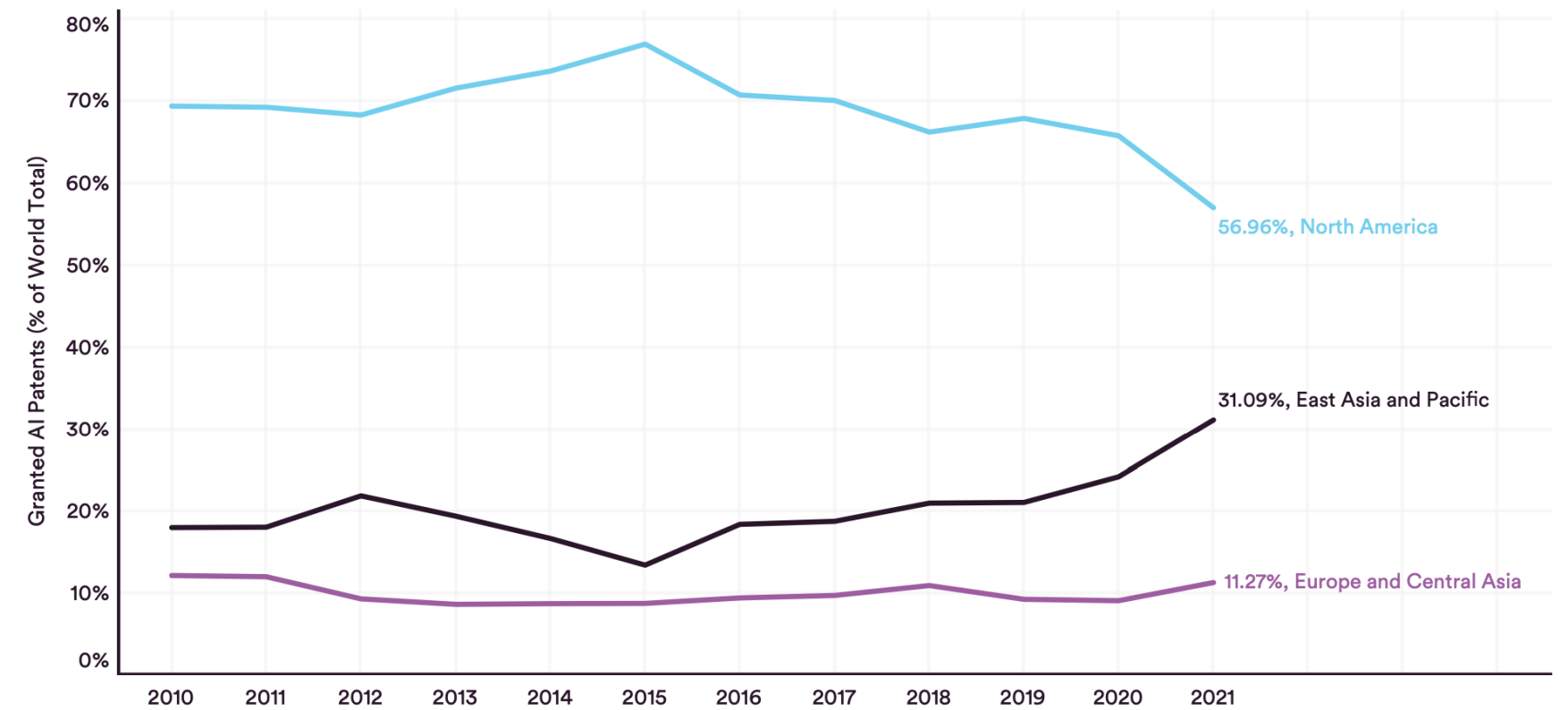
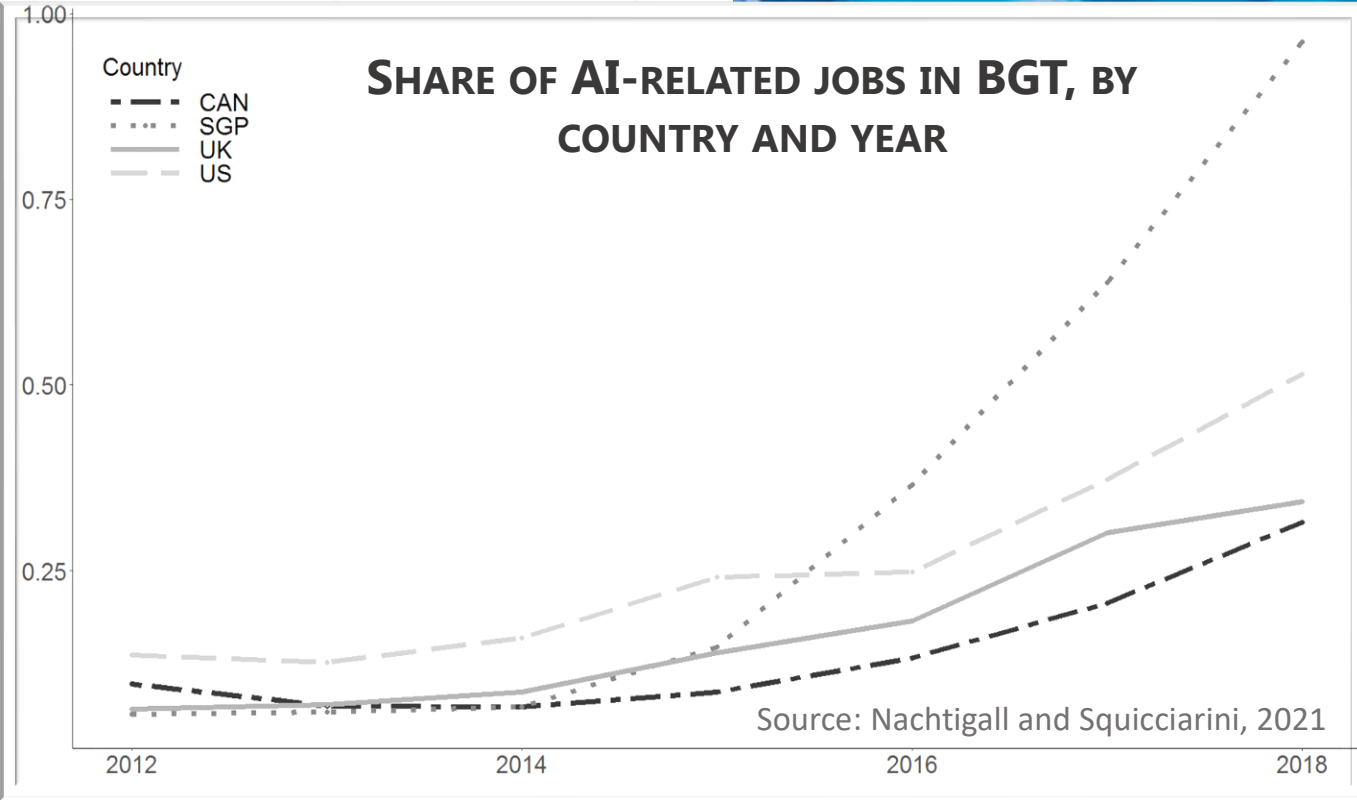
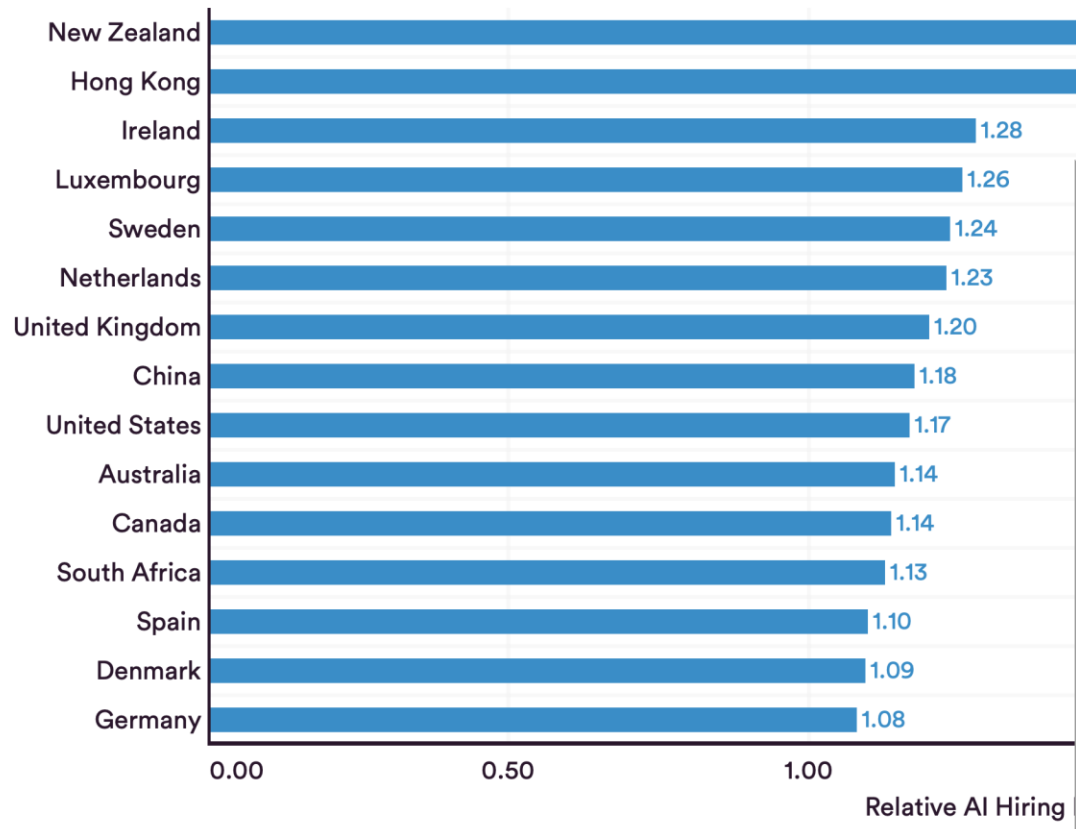


Figure 1.1.23b

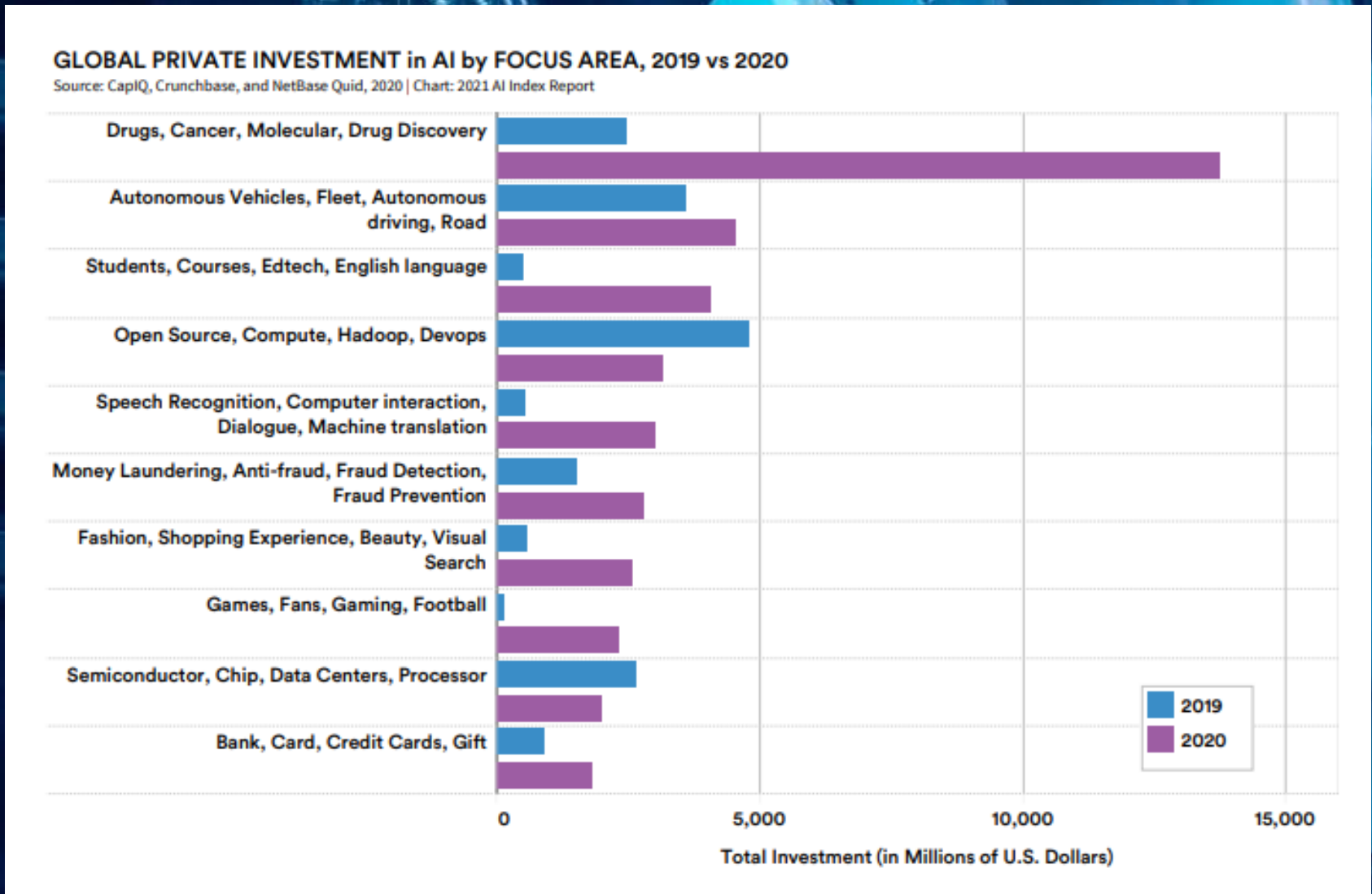
AI HIRING IS GROWING

RELATIVE AI HIRING INDEX by GEOGRAPHIC AREA, 2021

Source: LinkedIn, 2021 | Chart: 2022 AI Index Report



... AS IS PRIVATE INVESTMENT



AI: FAST FORWARD TOGETHER

More and more public and private decisions are taken by artificial intelligence, and the outcomes are not free from biases or badly-defined frameworks.

Privacy, surveillance, and serious human rights concerns.

The rise of decision intelligence: AI that optimizes decision-making

By Sajjan Kuttappa | 6 m  MIT Technology Review

[Subscribe](#)

Artificial intelligence / Machine learning

Disability rights advocates are worried about discrimination in AI hiring tools

The US federal agency charged with fighting employment discrimination has no plans to investigate the technology on its own.

July 21, 2021

Face-recognition technology

Computer programs recognise white men better than black women

 **euronews.**

WORLD

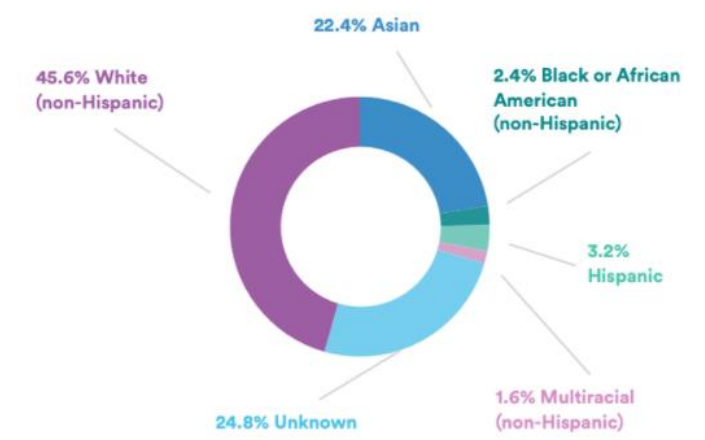
Social scoring: Could that Facebook post stop you getting a loan or a mortgage?

 COMMENTS

By Euronews with Associated Press • 25/06/2020

NEW U.S. RESIDENT AI PHDS (% of TOTAL) by RACE/ETHNICITY, 2019

Source: CRA Taulbee Survey, 2020 | Chart: 2021 AI Index Report



The Pegasus project



A special investigation into NSO Group, which sells hacking spyware to governments



Revealed
Massive leak uncovers global abuse of weapon of mass surveillance





DOWNSIDES OF SELF-REGULATION

Human Rights Violations

Privacy Issues

Diversity Inclusion

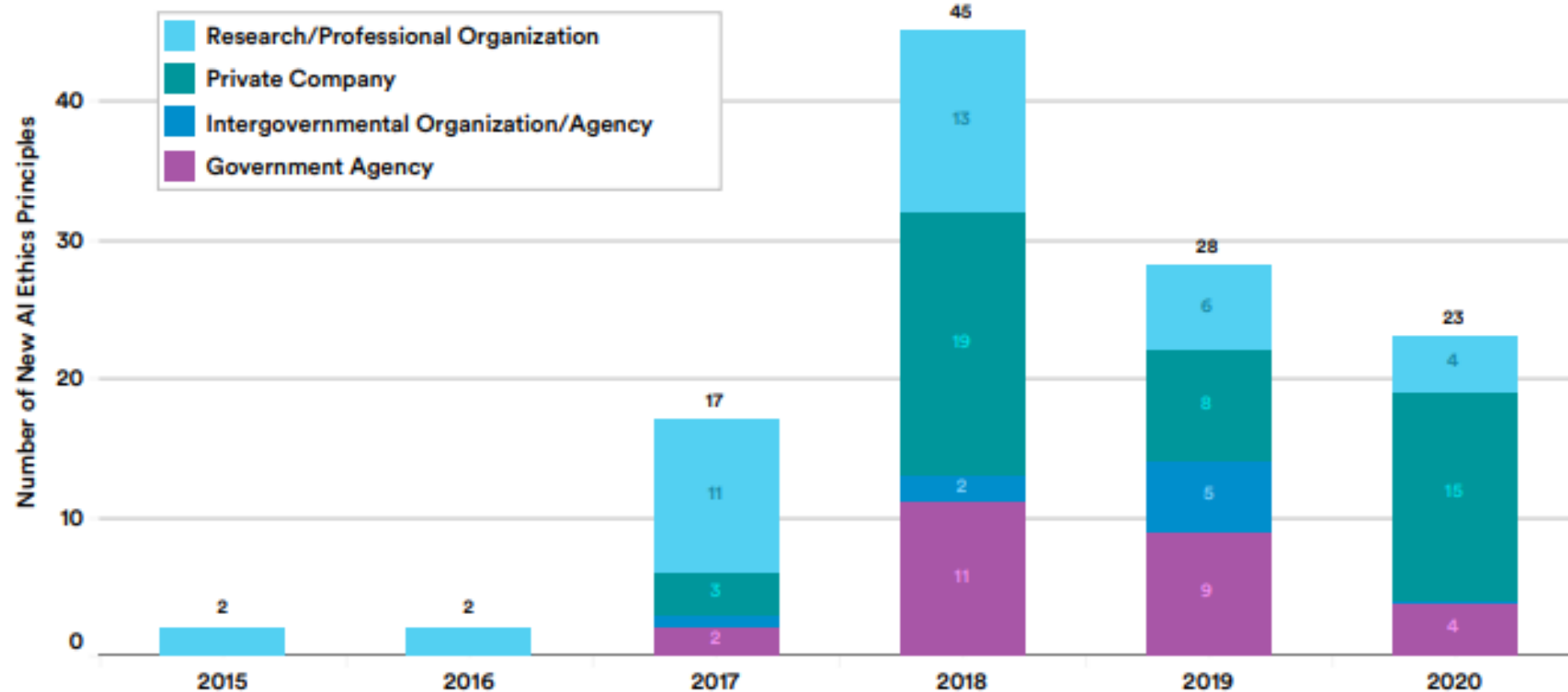
Bias

and more...

LACK OF A GLOBAL STANDARD AND BENCHMARKS

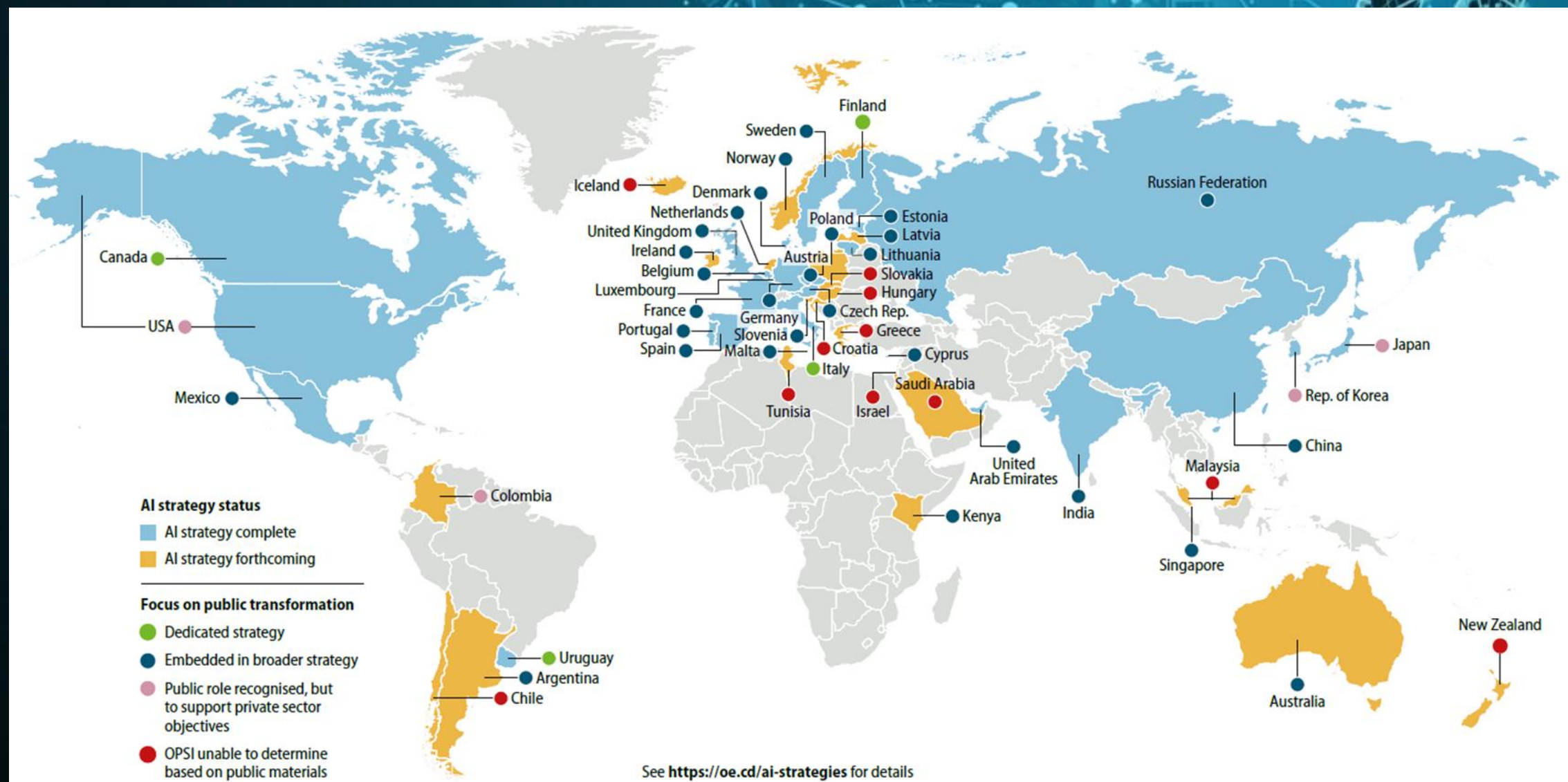
NUMBER of NEW AI ETHICS PRINCIPLES by ORGANIZATION TYPE, 2015-20

Source: AI Ethics Lab, 2020 | Chart: 2021 AI Index Report





LACK OF A GLOBAL STANDARD AND BENCHMARKS





Recommendation on the Ethics of AI adopted by acclamation
by 193 Member States of UNESCO, 23 November 2021

THE FRAMEWORK

The Recommendation is based on interconnected values and principles

Values

1. Respect, protection and promotion of human rights and fundamental freedoms and human dignity
2. Environment and ecosystem flourishing
3. Ensuring diversity and inclusiveness
4. Living in peaceful, just and interconnected societies



Principles

1. Proportionality and do no harm
2. Safety and security
3. Fairness and non-discrimination
4. Sustainability
5. Right to privacy, and data protection
6. Human oversight and determination
7. Transparency and explainability
8. Responsibility and accountability
9. Awareness and literacy
10. Multi-stakeholder and adaptive governance and collaboration

THE FRAMEWORK

Principles were there for many years, but the Recommendation goes into details of actions to ensure accountability, responsibility, transparency and necessary regulations to ensure the rule of law.

The Recommendation includes several action-oriented cross-sectoral policy chapters covering:



Data policy



Gender



Development
& international
cooperation



Environment
& ecosystems



Health
and social
well-being



Communication
& information



Education
& research



Economy &
Labour



Culture



DATA

92% of businesses believe that high-quality data is the fuel for digital transformation

75% of businesses say that poor quality data has made it challenging to achieve their digital transformation plans

Only 15% of respondents believe that their existing systems are capable of producing clean data that can be trusted

Source: 2018 Study by the Supply Chain Resource Cooperative at North Carolina State University and IBM Watson

DATA GOVERNANCE STRATEGIES

RIGHT TO PRIVACY

QUALITY DATASETS

OPEN DATA

GENDER

300 millions

fewer women than men access mobile internet

25 %

of all tech jobs are held by women

Women are **TWICE** as likely as
men to have lost their jobs due to the pandemic

3 %

of female students in higher education
choose ICT courses



GENDER

FINANCING GENDER RELATED SCHEMES

INCLUDING GENDER ACTION PLAN

ADDRESSING WAGE AND EQUAL OPPORTUNITIES GAP

ENCOURAGING FEMALE ENGAGEMENT IN AI

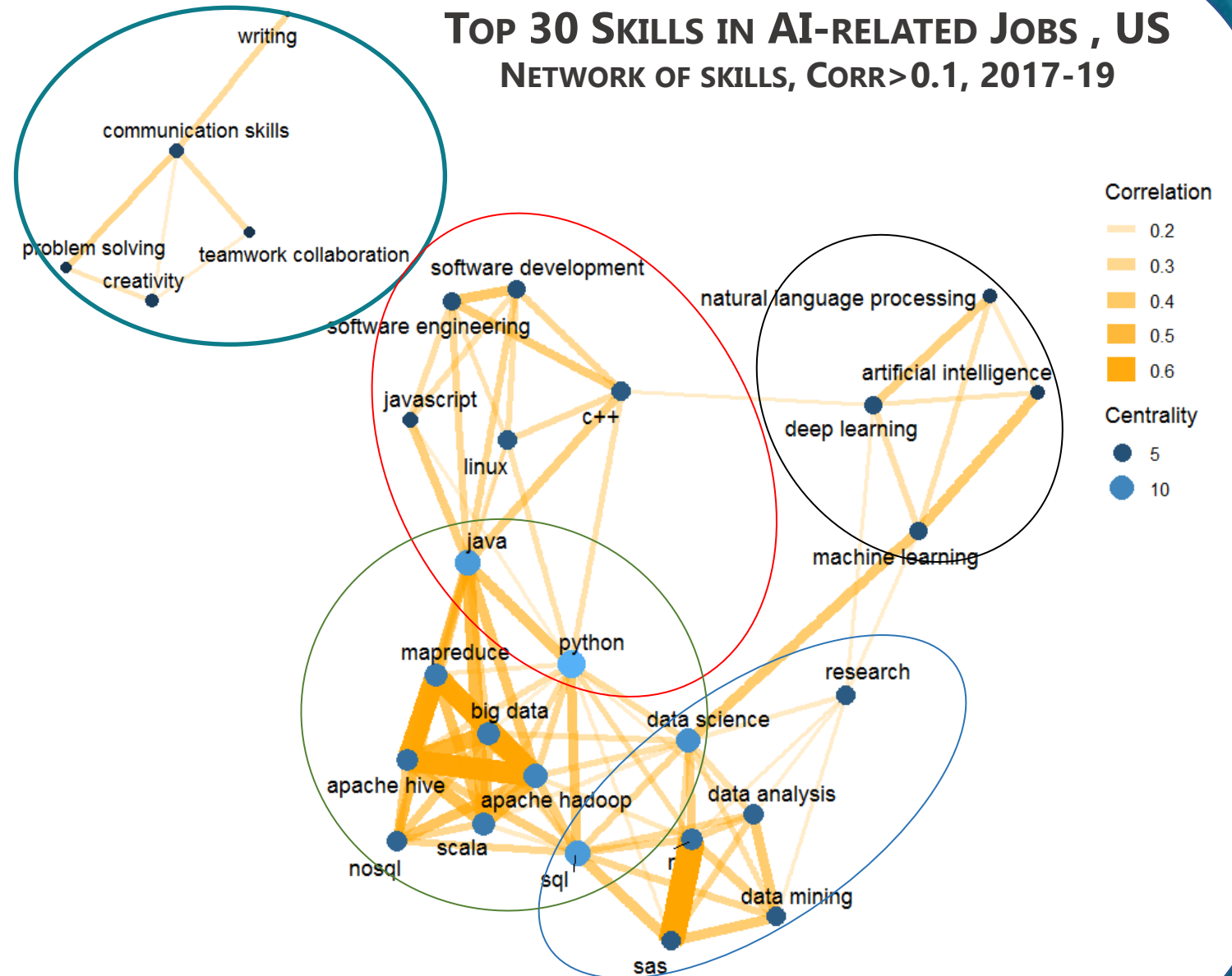
INCREASING FEMALE PARTICIPATION IN STEM AND ICT

ERADICATING GENDER STEREOTYPING AND BIAIS

EDUCATION AND SKILLS

- Top 30 skills appearing in AI-related jobs tend to be rather “general”
- Many of them relate to the “tools of the job”, i.e. are software-related (e.g. MATLAB, R, SAS)
- Some technical skill bundles emerge
- A number of additional cognitive and socio-emotional skills are also required

TOP 30 SKILLS IN AI-RELATED JOBS , US NETWORK OF SKILLS, CORR>0.1, 2017-19



Source: Samek, Squicciarini and Cammeraat (2021)

ASSISTING MEMBER STATES TO IMPLEMENT THE RECOMMENDATION



Ethical Impact
Assessment
(EIA)



Readiness
Assessment
Methodology

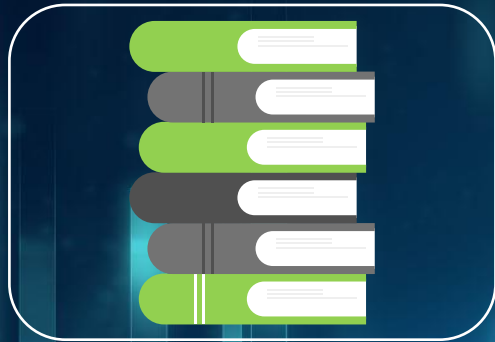


Building
Institutional
Capacity



Development
of knowledge
products

ASSISTING MEMBER STATES TO IMPLEMENT THE RECOMMENDATION



Observatory of
Ethical AI



Global Forum on
Ethics of AI



Women4EthicalAI



AI Experts
without borders



Analytical works



unesco

Social and Human Sciences

Thank you!

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More on the UNESCO Recommendation on the Ethics of AI:

<https://en.unesco.org/artificial-intelligence/ethics>