UNECE B+30 Civil Society Forum
Emerging Technologies
Harnessing AI for Good

Sponsors:

International Agency for Research on Cancer
World Health Organization

SOROPTIMIST INTERNATIONAL

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BD

ISACA
Belgium Chapter

Geneva
19.10.2024

MEET *our panelists*

BERTHE DE VOS-NEVEN, LL.M

Moderator

Soroptimist International

DR. ZISIS KOZLAKIDIS

Head, Laboratory Services and Biobanking

World Health Organisation

SIMON RUZSALA, MSC

Group Learning Director

Devoteam

DR. OLGA TZORTZATOU

External Ethics Expert

European Commission

TANIA GOMEZ HERAZO, MSC

Moderator

Soroptimist International of Europe

KAROLIEN VANHUFFEL, MSC

Global Director on Risk Management - GRC, Information Security Management
Member of ISACA Board of Directors

Becton Dickinson

TRISTAN VAN THIELEN, MSC

Machine Learning Tribe lead GCloud

Devoteam

SOFIA KYPRAIOU, MSC

Data Scientist Research Assistant

Université de Neuchâtel

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ISACA Belgium Chapter

HARNESSING ARTIFICIAL INTELLIGENCE FOR GOOD

SIMON RUZSALA, MSC

Group Learning Director

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Machine Learning Tribe lead

Devoteam

GenAI Education & Implementing ethical guardrails

devoteam

Tech for people.

AI-driven tech consulting

devoteam

Tech for people.

AI-driven tech consulting

devoteam

Tech
for
people.

AI-driven tech consulting

Privilege
of
time.

Devoteamers should complete

GenAI Level 1

by end of September

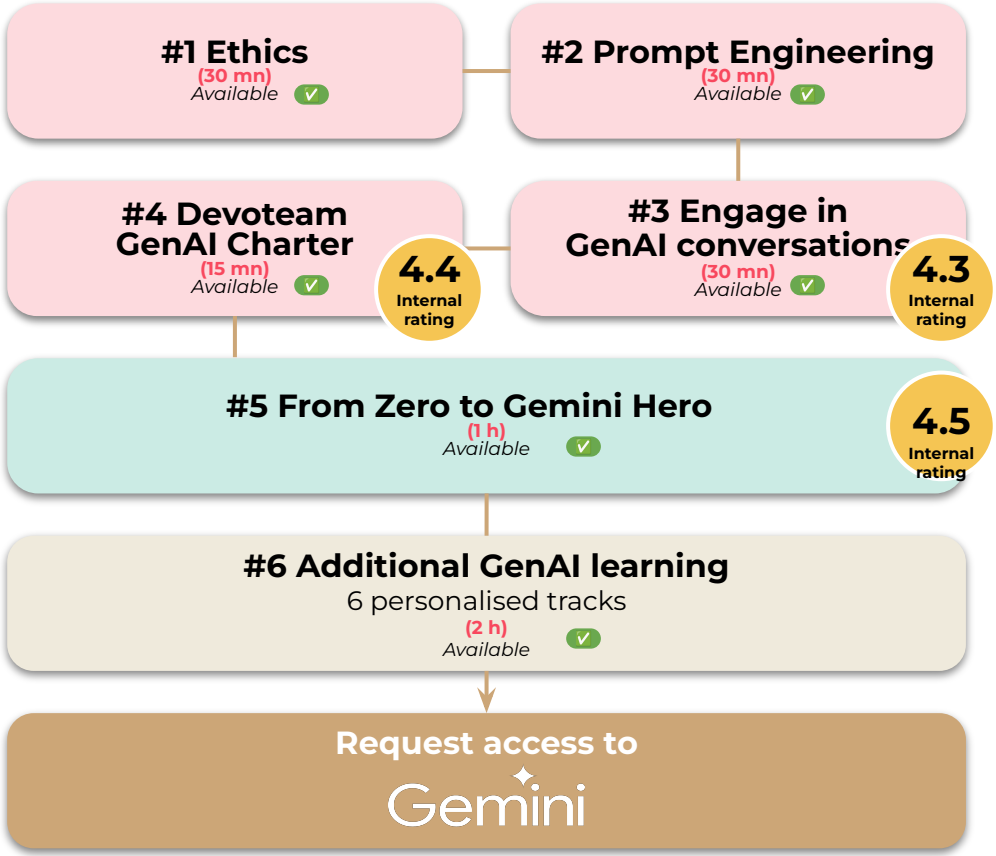
5 hours of learning

4 short modules (1h45)

1 Gemini training (1h)

1 specific learning module (~2h)

To obtain a **GEMINI License** !



GenAI Training For All

Impact of ALL
- Consultants - 22% female
- Support functions - 47% female

Equal opportunity to learn
- 25% all completions female

devoteam

Module 1 ✓ Module 2 ✓ Module 3 ✓ Module 4 ✓ Module 5 ✓

Module 6 - Your Choice!

*6 personalised tracks **(2 h)***

- GenAI Architecture
- Advanced Prompting
- GenAI for Developers & Testers
- Cyber Security in GenAI
- GenAI Transformation & Change Management
- GenAI Skills for Managers & Leaders

Request access to Gemini

Learning at the pace of change

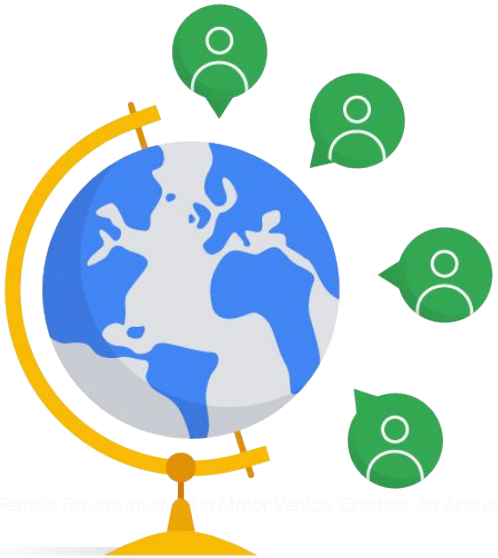
The **future is here**, AI training is part of **digital literacy**.

AI is for ALL and will deliver huge value & **time savings** to those who have the opportunity for **quality education & training**.

Image generated by Generative AI

Ethical AI in Practice

Technology decisions impact people differently



Female drivers were

47%

more likely to be severely injured in an auto accident between 1998–2008

Source: Vulnerability of Female Drivers Involved in Motor Vehicle Crashes: An Analysis of US Population at Risk, 2015

Source: Vulnerability of Female Drivers Involved in Motor Vehicle Crashes: An Analysis of US Population at Risk

Technology decisions impact people differently

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Source: Vulnerability of Female Drivers Involved in Motor Vehicle Crashes: An Analysis of US Population at Risk
Image Source: Forbes

Three vectors to influence fairness

Training Data
Data used to train the model should be unbiased, balanced and ethical. This is the first step in creating a fair system.

Model Input
At runtime, model input should be evaluated to ensure there is no malicious content. This goes for user input as well as machine provided input. (e.g. filter out discriminatory language)

Model Output
Despite our best efforts, the model might output information that is not ethical. Ideally this is corrected before it is returned. Worst case, this is at least detected and flagged for correction

Using synthetic data to address imbalance

Evaluate data distribution to determine any imbalance

Gemini

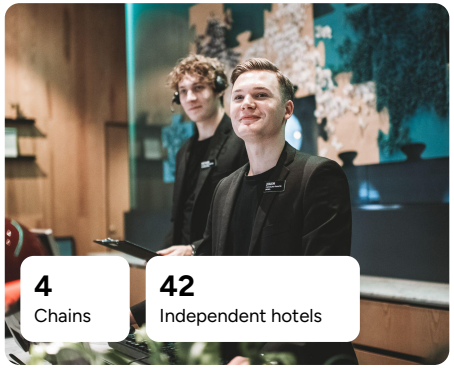
Sample imbalanced dataset

Generate balanced dataset

Scout The Robot

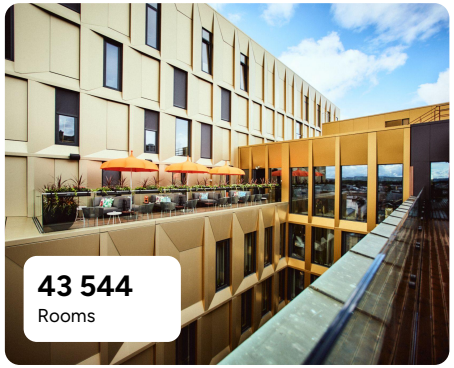
Empowering employees. Enhancing productivity.

A universe of experiences

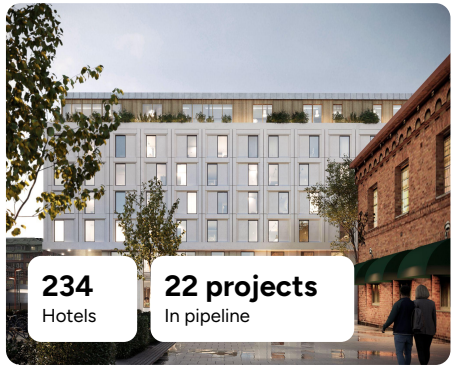


4
Chains

42
Independent hotels



43 544
Rooms



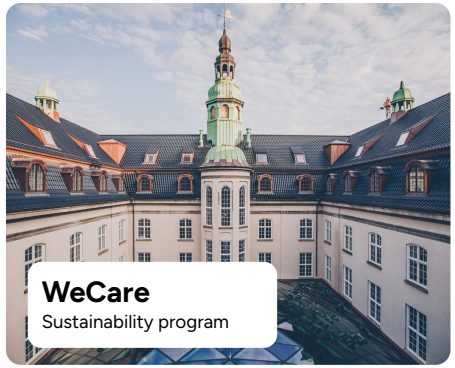
234
Hotels

22 projects
In pipeline

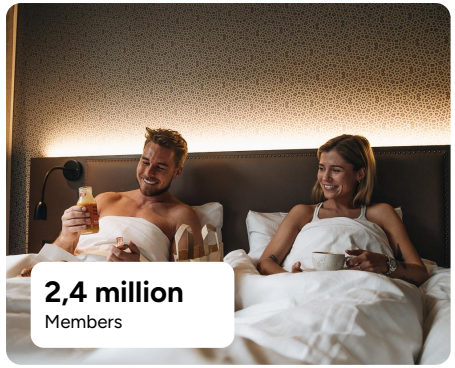
20 000
Employees from 176 countries

NOK 12 billion
Sales 2022 (including franchise)

3 000
Service apartments

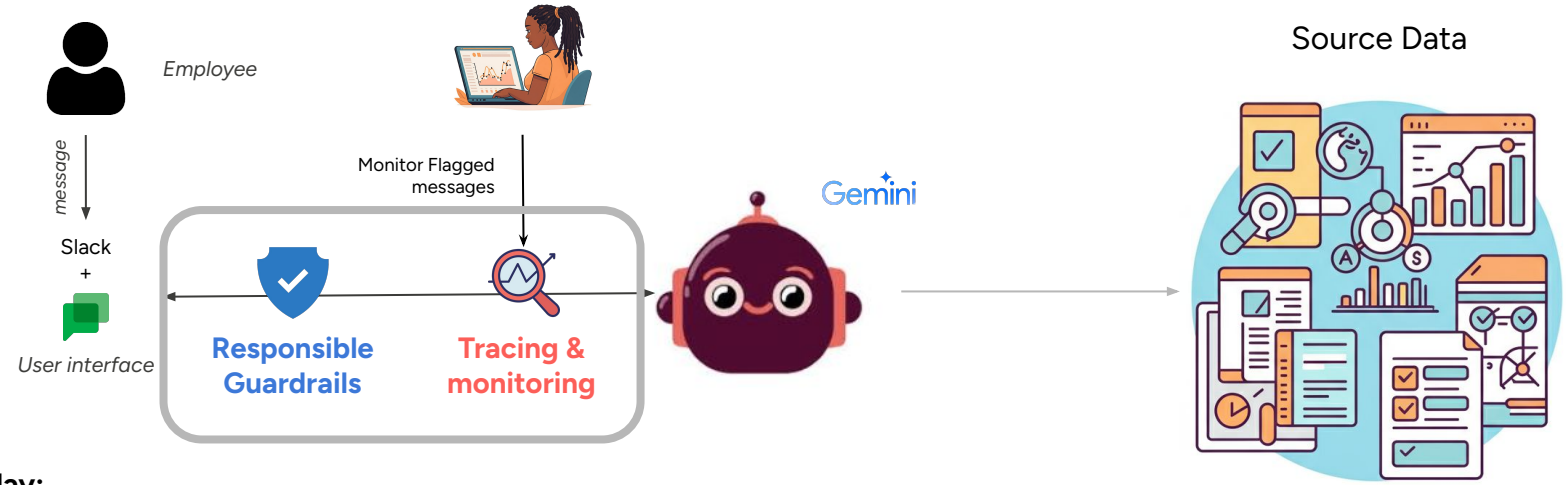


WeCare
Sustainability program



2,4 million
Members

Scout's Architecture



Scout today:

- 2,000 users
- 11 integrated tools (& more to come);
- 1 full monitoring & tracing dashboard;

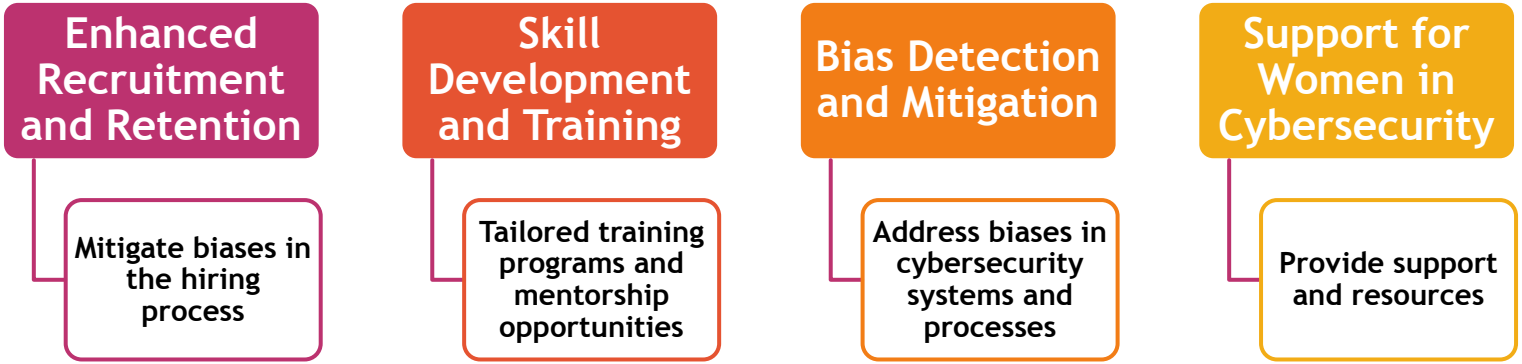

devoteam
Thank you!

KAROLIEN VANHUFFEL, MSC

Global Director on Risk Management - GRC,
Information Security Management
Member of ISACA Board of Directors

Becton Dickinson

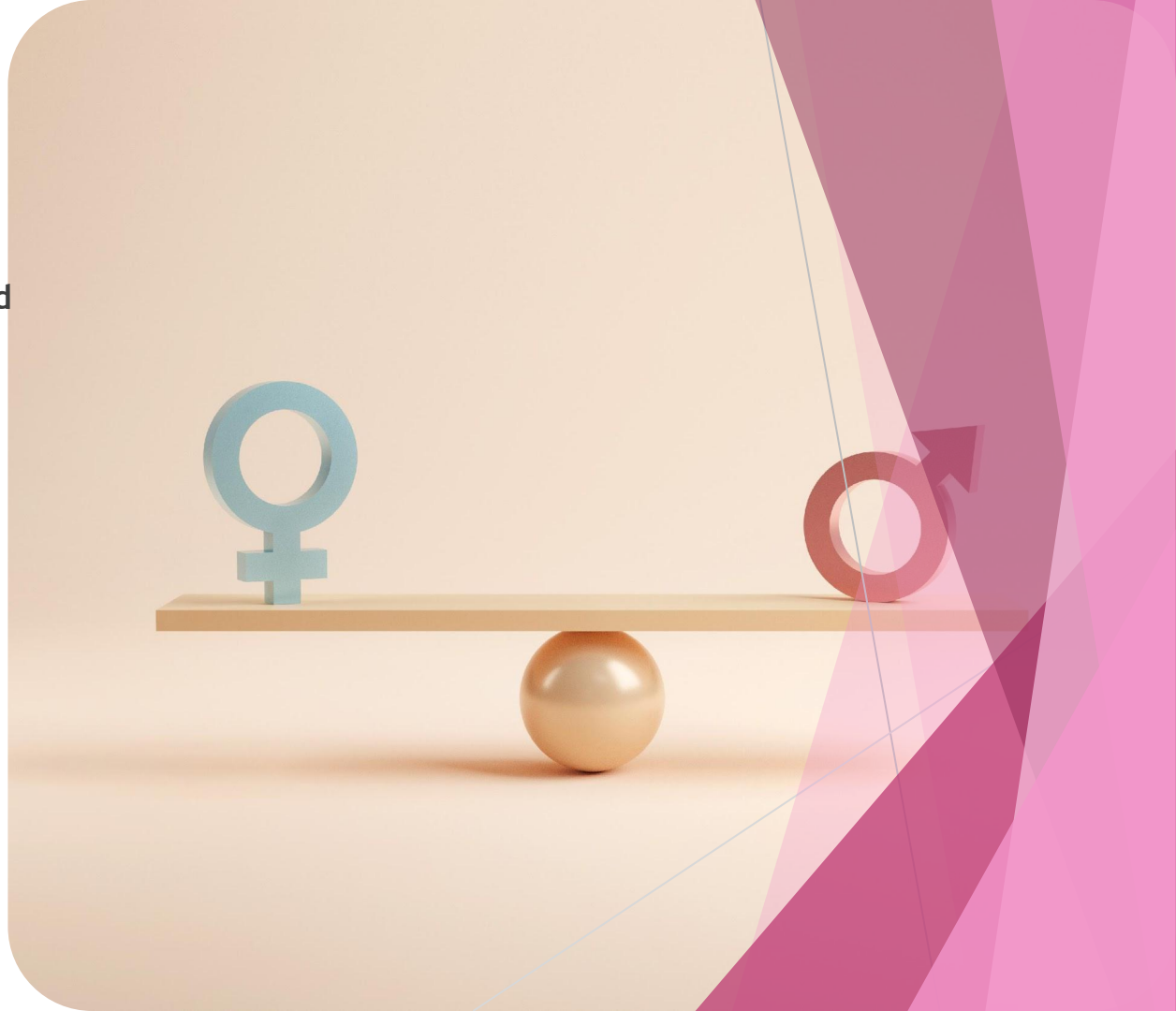
Positive Potential of AI in Promoting Gender Equality



Use Case in the Cybersecurity domain – can be leveraged anywhere

Positive Potential of AI in Promoting Gender Equality

- **Enhanced Recruitment and Retention**
  - Inclusive Job descriptions
  - Inclusive recruitment processes
    - Remove gender-biased language
    - Reach divers audience



DR. OLGA TZORTZATOU

External Ethics Expert

European Commission

Digital Health & the AI Act

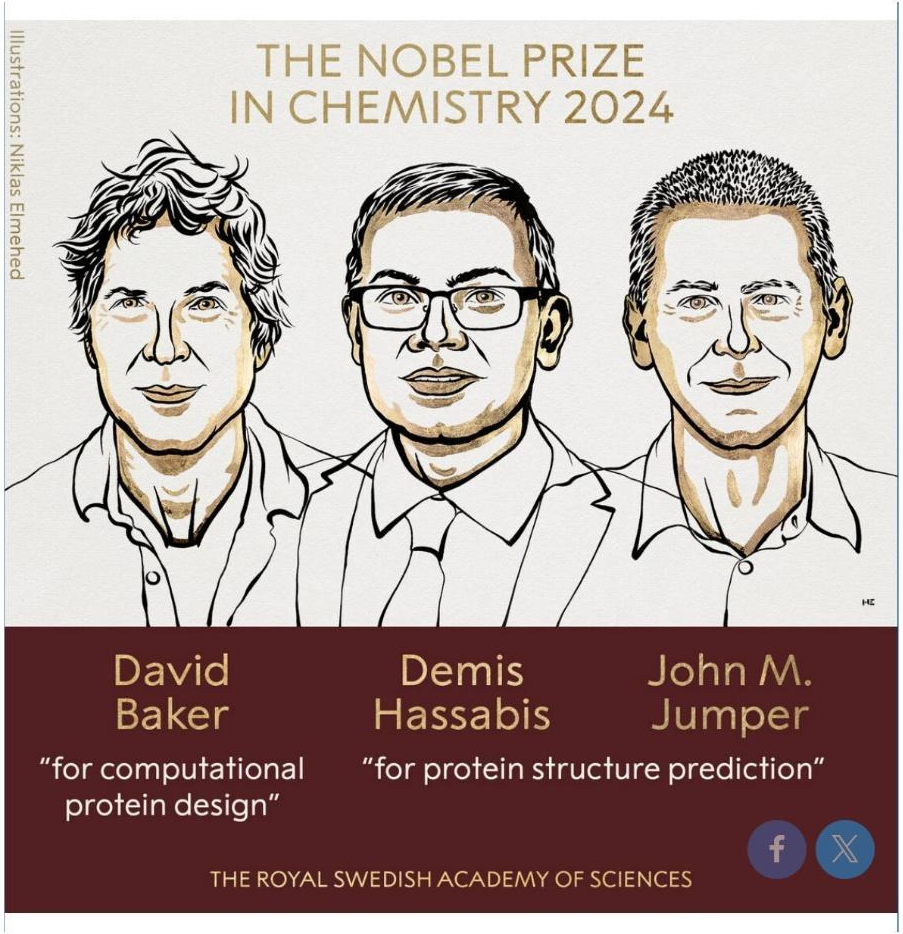
Dr. Olga Tzortzatou Nanopoulou

Head of the Technology Transfer Office, Biomedical Research Foundation Academy of Athens

External Ethics Expert to the European Commission

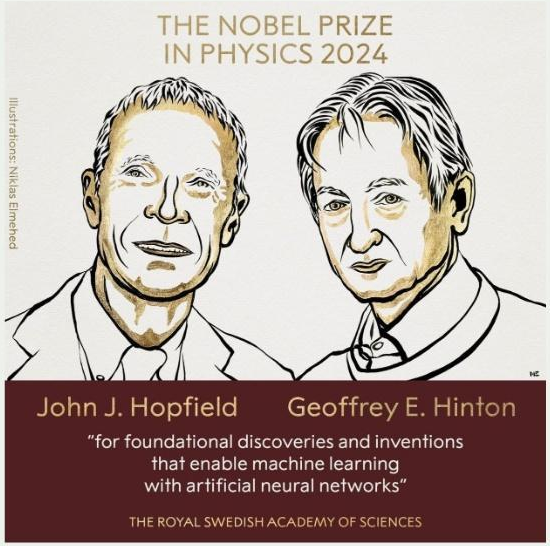
Nobel Prize Chemistry 2024

Hassabis and Jumper utilised artificial intelligence to predict the structure of almost all known proteins, while Baker learned how to master life's building blocks and create entirely new proteins, the award-giving body said.



2024 Nobel Prize

Inventions that enable machine learning with artificial neural networks



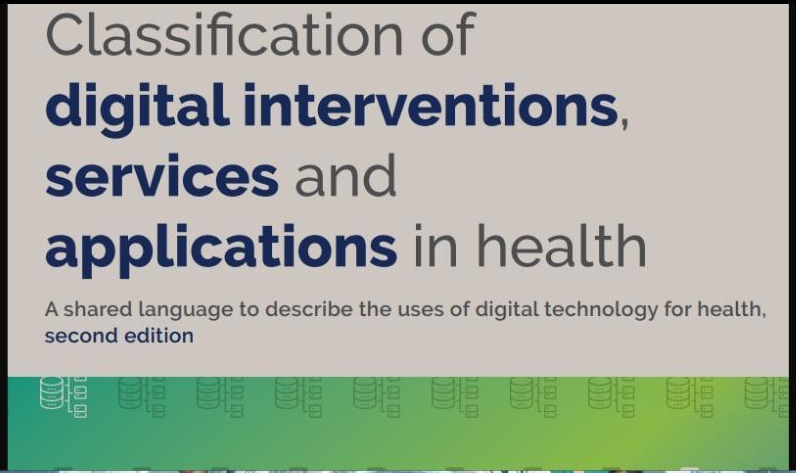
Neural networks and physical systems with emergent collective computational abilities. (**1982**)

John Hopfield created an associative memory that can store and reconstruct images and other types of patterns in data.

Geoffrey Hinton invented a method that can autonomously find properties in data, and so perform tasks such as identifying specific elements in pictures.

DIGITAL HEALTH (WHO 2023)

THE SYSTEMIC APPLICATION OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES, COMPUTER SCIENCE AND DATA TO SUPPORT INFORMED DECISSION MAKING BY INDIVIDUALS, THE HEALTH WORKFORCE AND HEALTH SYSTEMS TO STRENGTHEN RESILIENCE TO DISEASE AND IMPROVE HEALTH AND WELNESS.



The Concept of 'Techquity' in Healthcare

'Techquity' is the concept that DIGITAL HEALTH can either hinder or facilitate more accessible and equitable care, depending on its intended purpose and design. The effectiveness of healthcare technology in promoting equity is determined by how it is developed and implemented, rather than the technology itself.

RESULTS OF DIGITAL HEALTH INEQUITIES

1. POOR ACCESS TO HEALTH SERVICES
2. LOWER QUALITY OF HEALTHCARE AND MARGINILIZATION
3. LESS LIKELY TO USE DIGITAL HEALTH SERVICES EVEN IF AVAILABLE FOR FEAR OF DISCRIMINIZATION
4. IMPACTING IN FEWER OPORTUNITIES TO MANAGE DISEASES & REDUCED WELL-BEING

Opportunities of AI in Healthcare

- **Closing gaps in healthcare access and outcomes**

  AI can help expand access to healthcare services, particularly in underserved or remote areas, by automating certain tasks and making healthcare more efficient and accessible.

- **Enabling faster diagnoses**

  AI-powered tools can analyze medical images, lab results, and patient data much faster than human clinicians, leading to quicker and more accurate diagnoses, especially for complex or rare conditions.

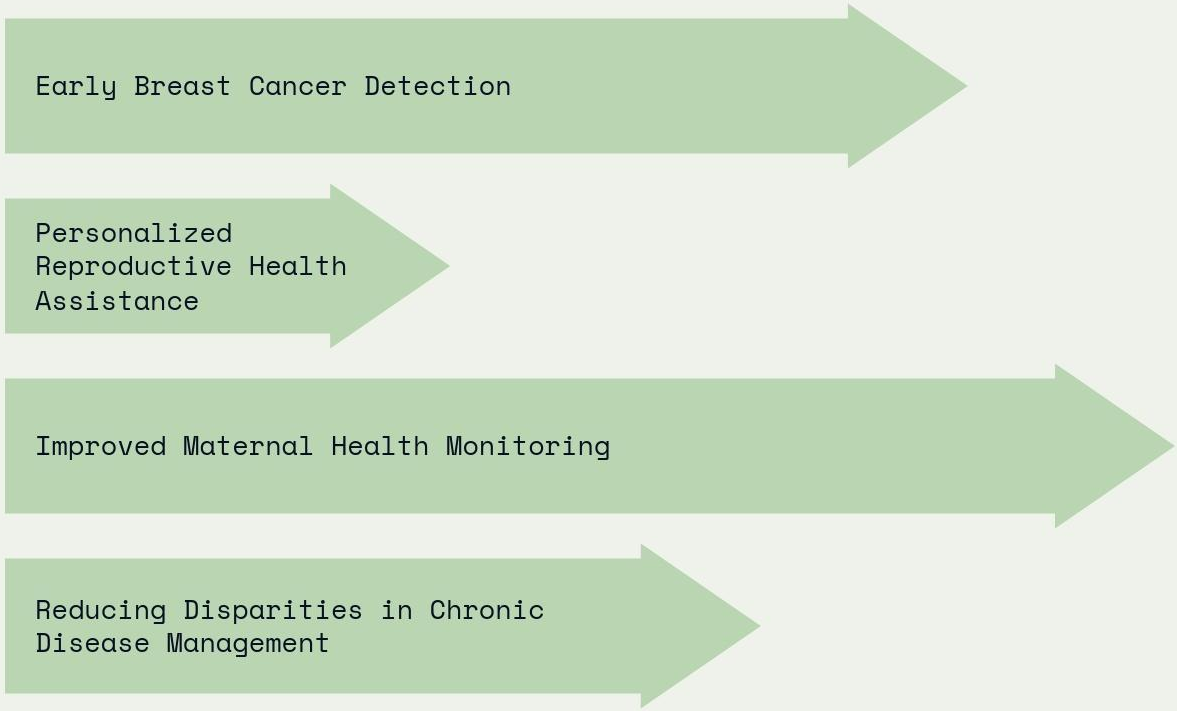
- **Providing tailored treatments**

  AI can analyze a patient's unique genetic, behavioral, and environmental data to recommend personalized treatment plans, leading to more effective and precise therapies.

- **Expanding telemedicine services**

  AI can enhance telemedicine by automating consultations, monitoring patient progress remotely, and aiding in the delivery of care to patients who cannot easily access physical healthcare facilities.

Opportunities in Leveraging AI for Gender Equity



Potential Challenges of AI in Healthcare

Algorithmic Bias

AI systems can exhibit biases based on the data used to train them, leading to unfair or inaccurate outcomes, particularly for underrepresented populations.

Privacy and Security Concerns

The use of sensitive healthcare data in AI systems raises concerns about patient privacy, data breaches, and the potential misuse of information.

Transparency and Interpretability

Many AI models are complex and opaque, making it difficult for healthcare providers to understand the reasoning behind the system's decisions, which can undermine trust.

Limited Oversight and Accountability

Without clear guidelines and oversight, there is a risk of AI systems being deployed without adequate testing or monitoring, leading to unintended consequences.

Regulatory Challenges

Existing regulations may not adequately address the unique challenges posed by AI in healthcare, requiring new frameworks to ensure safety, efficacy, and ethical use.

The United Nations and Gender Equity in Health

- ## UN Women's Initiatives

  UN Women leads global efforts to promote gender equality and empowerment of women, including in the health sector through programs and policies that address gender disparities in access to healthcare and decision-making.

- ## UNFPA's Focus on Maternal Health

  The United Nations Population Fund (UNFPA) works to ensure universal access to sexual and reproductive healthcare, with a particular emphasis on improving maternal health outcomes and reducing preventable maternal mortality.

- ## WHO's Gender and Health Strategy

  The World Health Organization (WHO) has a comprehensive strategy to integrate gender considerations into all aspects of its work, from data collection and research to program design and implementation in the health domain.

- ## UNICEF's Initiatives for Adolescent Girls

  The United Nations Children's Fund (UNICEF) focuses on addressing the specific health and developmental needs of adolescent girls, including through initiatives that promote menstrual health, sexual and reproductive rights, and gender-responsive healthcare.

UN and WHO Frameworks

2019

UN Secretary-General's Strategy on New Technologies calls for AI to be developed and used in ways that promote gender equality and women's empowerment.

2020

WHO releases 'Ethics and Governance of Artificial Intelligence for Health' report, emphasizing the importance of including women in the development of AI systems.

2021

UNICEF and ITU launch 'AI for Children' policy guidance, highlighting the need to address gender biases in AI development and use.

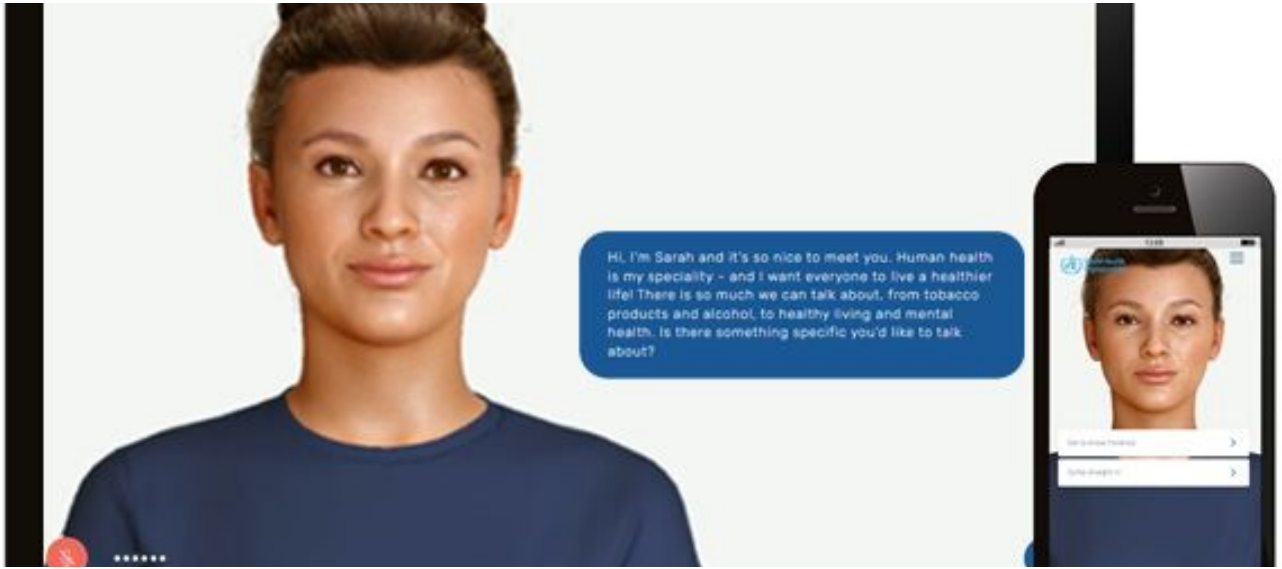
2022

The UN Women's Innovation Challenge awards funding to initiatives that use AI and digital technologies to advance women's economic empowerment.

2023

The WHO establishes a Global Center for Digital Health to promote responsible and inclusive development of digital health solutions, including AI.

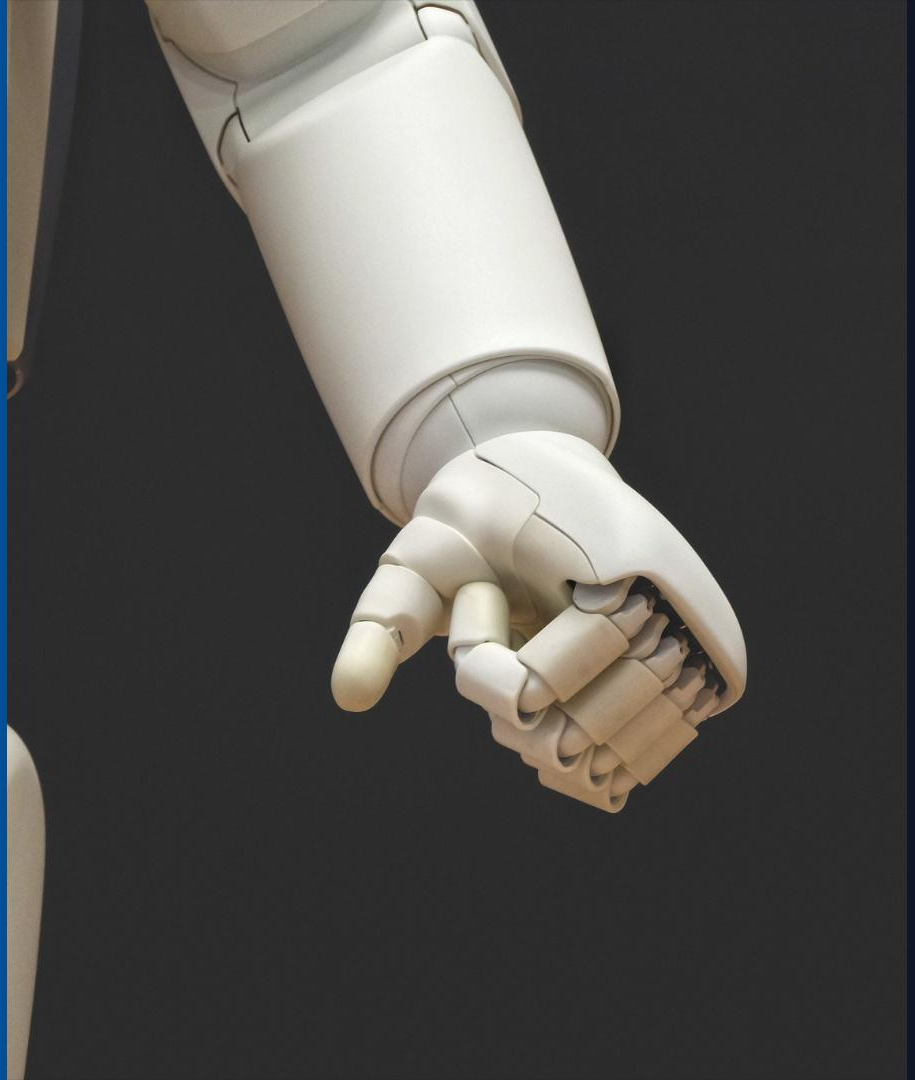
S.A.R.A.H (**S**mart **A**I **R**esource **A**ssistant for **H**ealth)



https://who-en.digitalhero.cloud/landing/index.html

“As AI becomes more prevalent in healthcare, we must establish robust ethical guidelines and regulatory frameworks to ensure the technology is used responsibly and equitably, prioritizing patient welfare and fairness.”

WORLD HEALTH ORGANIZATION



The AI Act in a Nutshell

A concise overview of the key aspects of the European Union's proposed regulatory framework for artificial intelligence.

Key Objectives of the AI Act

PROMOTING TRUST IN AI

The AI Act aims to establish clear guidelines and safeguards to build public confidence in the responsible development and use of AI technologies.

SAFEGUARDING PUBLIC INTEREST

The Act focuses on protecting fundamental rights, ensuring algorithmic transparency, and mitigating the risks of AI systems to prevent harm to individuals and society.

THE AI ACT AIMS TO FOSTER A TRUSTWORTHY AND RESPONSIBLE AI ECOSYSTEM THAT PRIORITIZES THE PUBLIC GOOD AND THE PROTECTION OF FUNDAMENTAL RIGHTS.

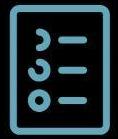
The EU AI Act

Scope and Definitions

The proposed EU AI Act aims to establish a comprehensive regulatory framework for the development, deployment, and use of AI systems within the European Union.

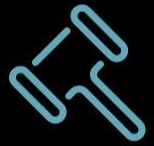
Risk-Based Approach

The regulation categorizes AI systems into different risk levels (unacceptable, high, limited, and minimal) based on their potential impact on individuals and society.



Compliance Requirements

The act outlines specific compliance requirements for high-risk AI systems, including data quality, human oversight, and transparency measures.



Enforcement and Sanctions

The proposed framework includes strong enforcement mechanisms, such as fines and bans on non-compliant AI systems, to ensure effective implementation.

The EU AI Act aims to create a harmonized regulatory environment for AI development and use, prioritizing safety, ethics, and accountability to protect European citizens and promote responsible AI innovation.

Unacceptable Risk

EXISTENTIAL RISK

AI systems that pose a direct and significant threat to the existence of humanity, such as superintelligent systems with misaligned goals.

AUTONOMOUS WEAPON SYSTEMS

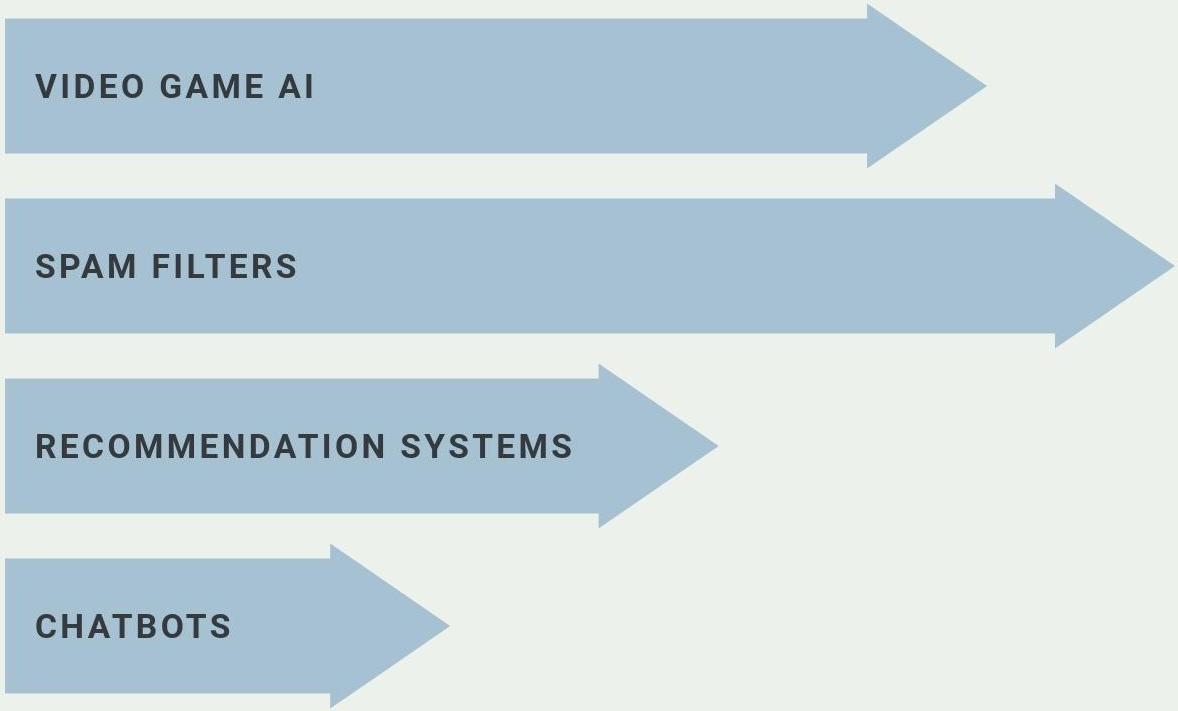
AI-powered military weapons that can select and engage targets without meaningful human control, posing unacceptable risks of harm.

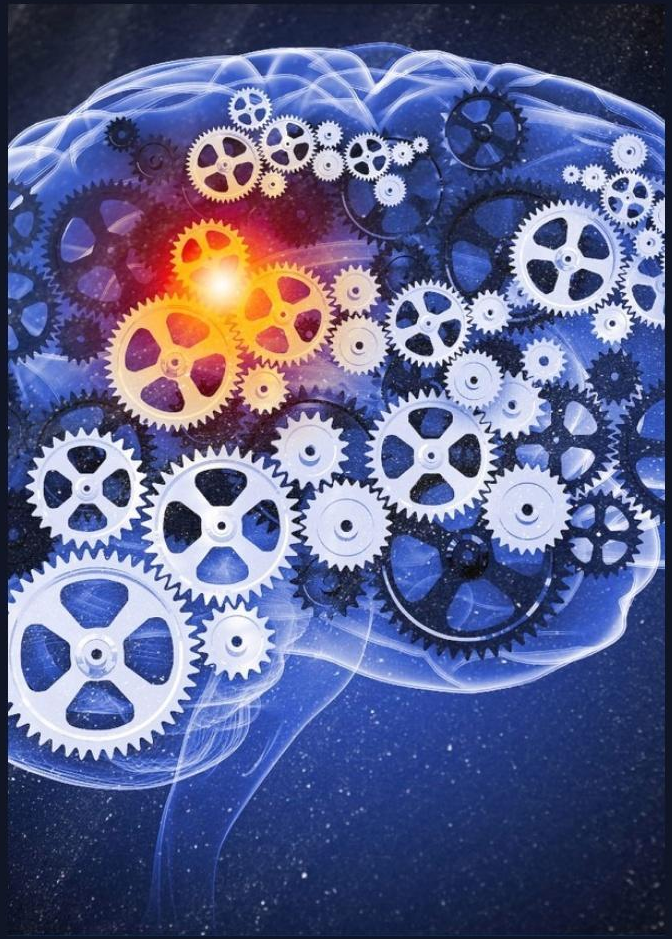
SURVEILLANCE DYSTOPIA

AI systems that enable totalitarian control, mass surveillance, and the suppression of individual freedoms, creating a dystopian society.

THESE AI SYSTEMS POSE SUCH GRAVE RISKS TO SOCIETY THAT THEY ARE DEEMED UNACCEPTABLE, AND MUST BE BANNED OUTRIGHT TO PROTECT HUMANITY AND OUR FUNDAMENTAL RIGHTS.

Minimal or No Risk





Limited Risk

AI systems in the 'Limited Risk' category pose fewer risks to human safety and well-being compared to more advanced AI, but they are still required to meet certain transparency obligations. These systems are designed to perform specific tasks within well-defined parameters, with built-in safeguards to mitigate potential negative impacts. However, even these 'lower-risk' AI systems must demonstrate a high degree of transparency in their decision-making processes to ensure accountability and public trust.

High-Risk AI Systems

DEFINITION

AI systems categorized as high-risk are those that have the potential to significantly impact critical sectors and individual rights.

PERMITTED UNDER AI ACT

High-risk AI systems are allowed to be developed and deployed, but they are subject to strict regulations and requirements under the AI Act.

CRITICAL SECTORS

High-risk AI systems are often used in critical sectors such as healthcare, transportations, finance etc.

COMPLIANCE REQUIREMENTS

High-risk AI systems must comply with strict requirements, including risk assessment, data quality, and human oversight, to mitigate potential harms and ensure accountability.

The AI Act: Governing AI Under a Human Rights Lens

PRIVACY PROTECTIONS

The AI Act aims to safeguard individual privacy by regulating the collection and use of personal data in AI systems, ensuring transparency and user control.

NON-DISCRIMINATION MEASURES

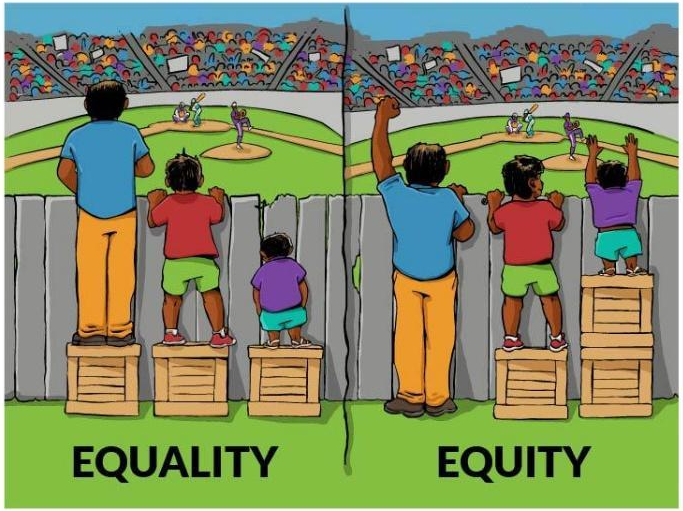
The AI Act mandates that all AI systems must be designed and deployed in a way that does not discriminate against individuals based on protected characteristics like race, gender, or disability.

EQUAL TREATMENT GUARANTEES

The AI Act requires that high-risk AI systems provide equal treatment and opportunities to all users, without unfair biases or unjustified differences in service or outcomes.

THE AI ACT'S AIMS TO ENSURE THAT TECHNOLOGY BENEFITS ALL MEMBERS OF SOCIETY EQUALLY.

The AI Act has the potential to contribute in the development of a more equitable digital health ecosystem that benefits women and all populations by ensuring that AI systems are developed and deployed in a responsible and inclusive manner.



“Thank you for your attention!”

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Attorney at Law, Privacy & Innovation
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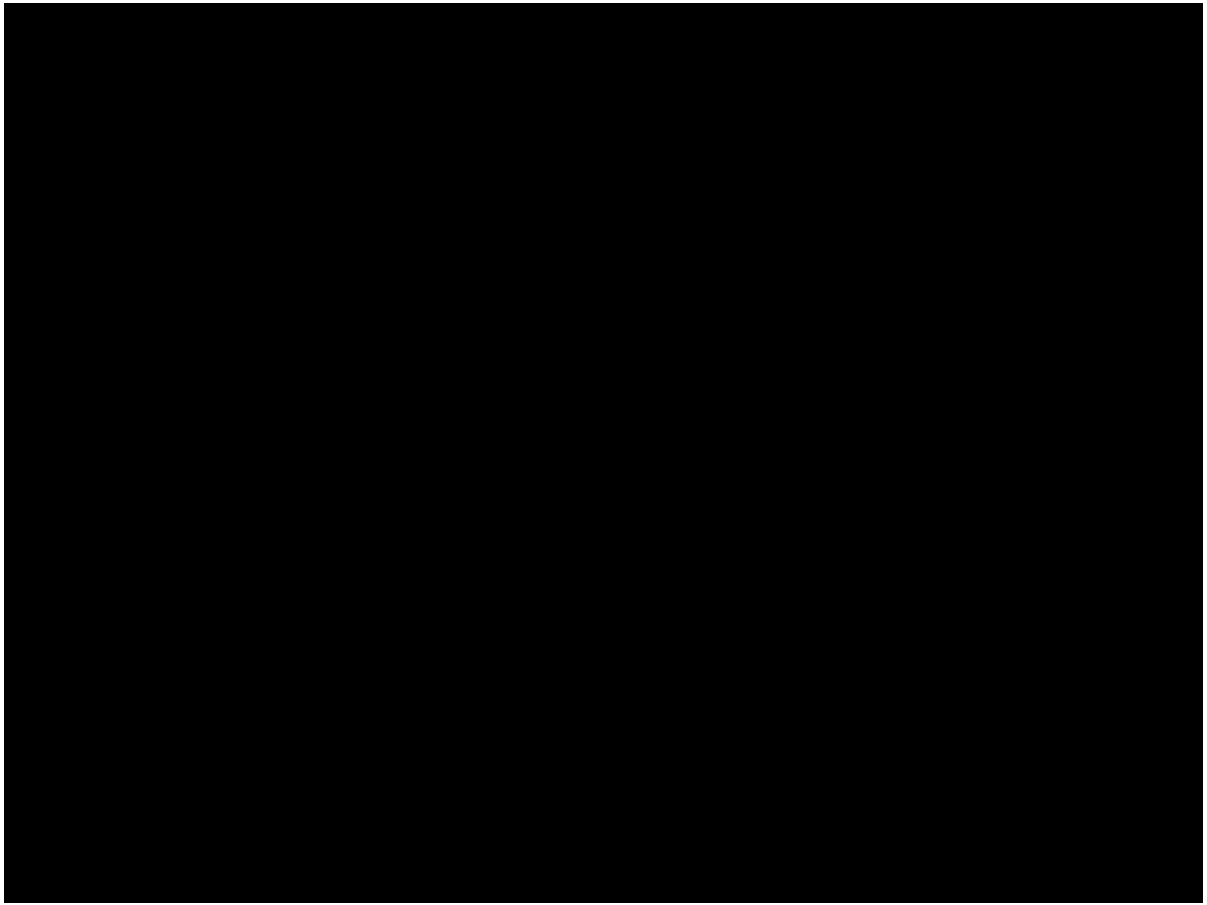

BREAKOUT SESSIONS

THANK YOU