



# GENDER BIAS IN DER KI – NUR EINE UTOPIE?

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- **Aktuell**

- Technology Consultant / Data Scientist bei der Lufthansa Industry Solutions
- Über 8 Jahre Erfahrung in der KI und Robotik
- Mitglied und Bremer City Lead Women in AI
- Ausgezeichnet als GI Junior Fellows 2021

- **Background**

- Diplom in Technischer Informatik @ Universität Bremen
- PhD in KI und Robotik @ Institute for Artificial Intelligence, Universität Bremen

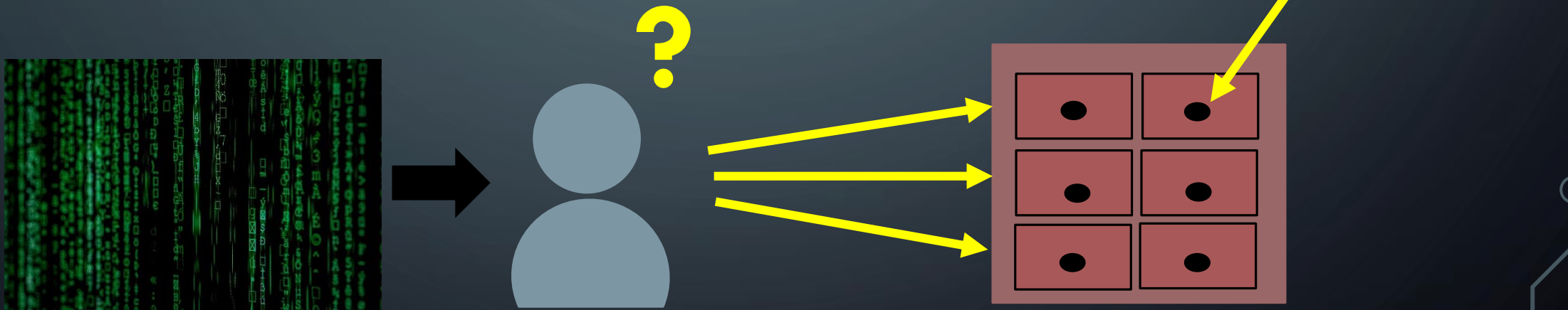


# WAS IST BIAS?



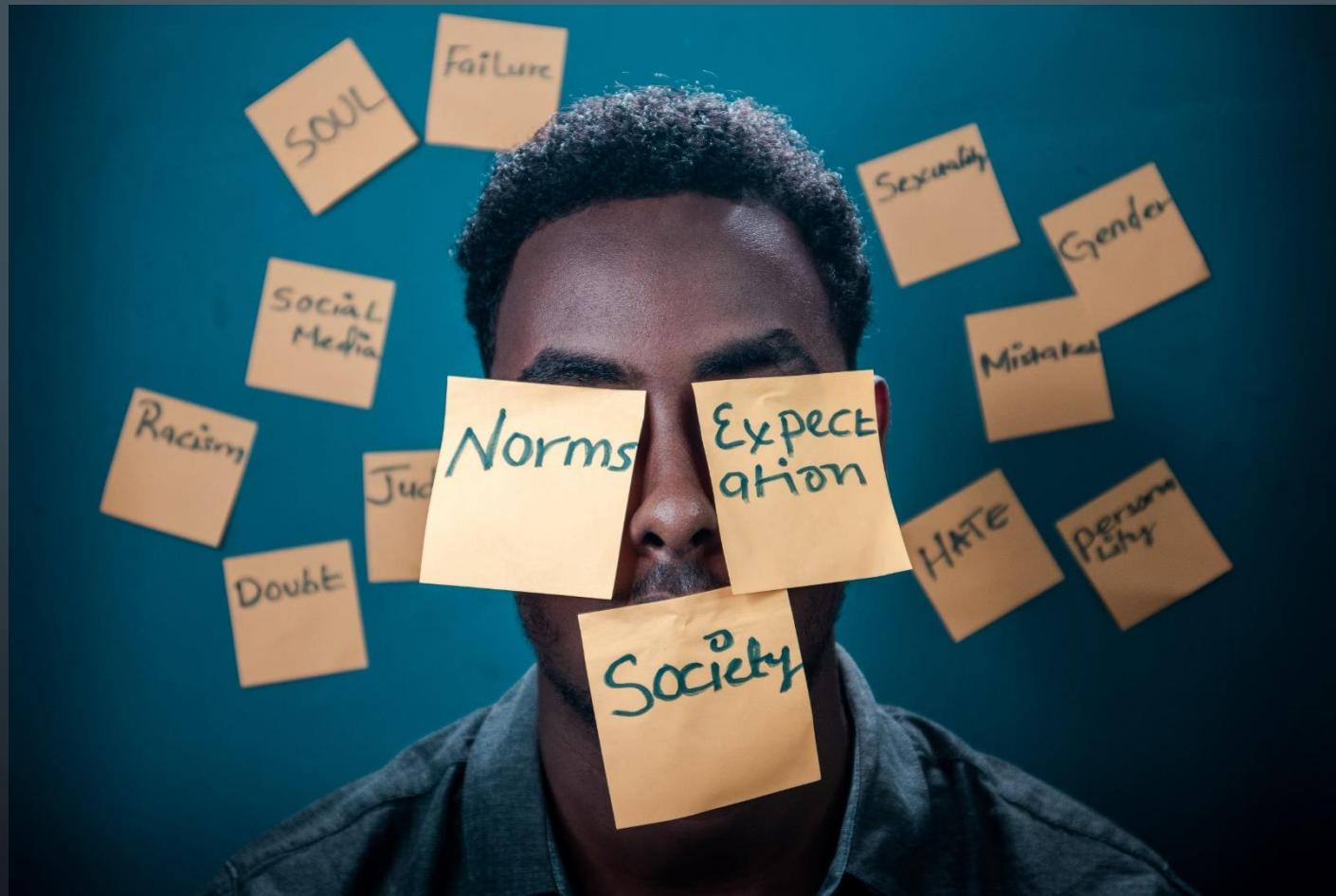
# UNCONSCIOUS BIAS

- Unbewusste kognitive Verzerrungen
  - Automatische Stereotypen
  - Unbewusste Denkmuster





# WO FINDEN WIR BIAS?



# BEISPIELE FÜR BIAS

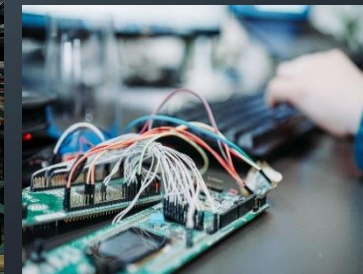
- Erfahrungen, kulturelle Einflüssen und Darstellungen in den Medien
- Stereotypen: typische Frauen- und Männerberufe bei Eignungsbeurteilung
- Arbeitsmodell: Teil-/Vollzeit bei Leistungsbeurteilung

# WIE KOMMT DER BIAS IN DIE KI?



# KI-ANWENDUNGEN

- KI künftig in allen Branchen integriert
  - Gesundheitswesen – Data Science
  - Marketing - Kundensegmentierung
  - Industrie 4.0 – Predictive Maintenance
  - IoT – Smart Buildings





The image features a dark blue background with white, stylized circuit board traces in the corners. These traces consist of straight lines and right-angle turns, ending in small white circles that represent components or connection points. The traces are located in the top-left, top-right, bottom-left, and bottom-right corners, framing the central text.

GRUNDLAGE DER KI-ANWENDUNGEN SIND DIE  
**DATEN!**

Die Welt besitzt Daten  
+  
Die Welt hat einen BIAS  
=  
**Daten haben einen BIAS**



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# BEISPIELE FÜR BIAS IN TECHNOLOGIEN

# BEISPIEL FÜR BIAS IN AUTOMOTIVE

„Eine Durchschnitts-Dummy-Frau  
existiert nicht.“

Frauen und Beifahrerinnen sterben etwa

**17 Prozent häufiger**

bei Autounfällen.



Angeschallte Frauen haben eine höhere Wahrscheinlichkeit von

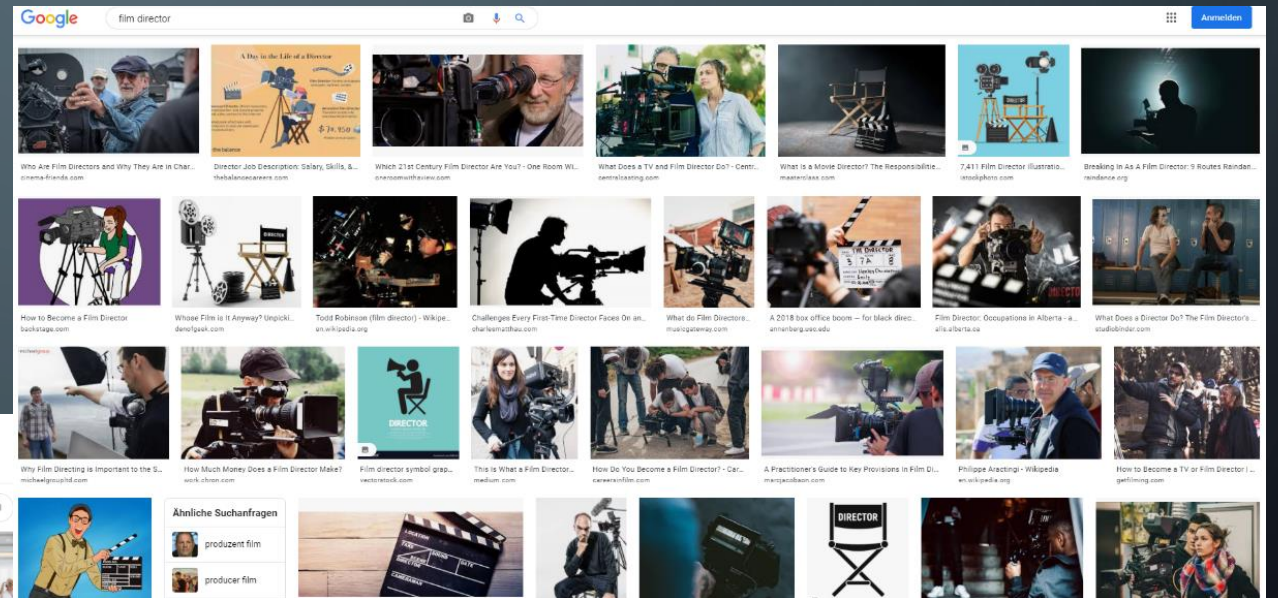
**73 Prozent**

ernsthaft verletzt zu werden.



# BEISPIEL FÜR BIAS: STEREOTYPEN

Google search results for "film director".



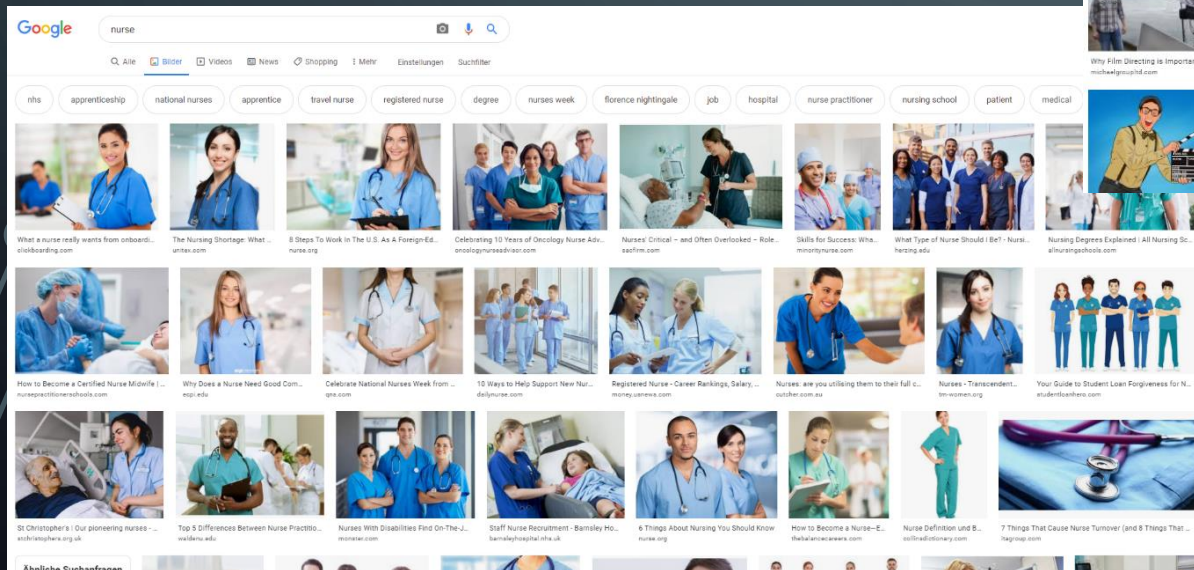
The search results for "film director" include:

- Who Are Film Directors and Why They Are in Char... - emmafranda.com
- Director Job Description: Salary, Skills, &... - thebalancecareers.com
- Which 21st Century Film Director Are You? - One Room WL... - oneroomwll.com
- What Does a TV and Film Director Do? - Centr... - sametaxing.com
- What is a Movie Director? The Responsibility... - mastertax.com
- 7,411 Film Director Illustratio... - istockphoto.com
- Breaking In As A Film Director? Routes Randem... - randemance.org
- How to Become a Film Director - lookatstage.com
- Whose Film Is It Anyway? Unglicki... - denofseek.com
- Todd Robinson (film director) - Wikipe... - en.wikipedia.org
- Challenges Every First-Time Director Faces On an... - charlemantbau.com
- What do Film Directors... - multigames.com
- A 2018 box office boom - for black direc... - emmerberg.uec.edu
- Film Director: Occupational in Alberta - a... - ails.alberta.ca
- What Does a Director Do? The Film Director's... - studioindie.com
- Why Film Directing is Important to the S... - work4choice.com
- How Much Money Does a Film Director Make? - vectortool.com
- Film director symbol grab... - vectortool.com
- This is What a Film Director... - medium.com
- How Do You Become a Film Director? - Car... - carerose.com
- A Practitioner's Guide to Key Provisions in Film DL... - mwpublishers.com
- Philippe Aractingi - Wikipedia... - en.wikipedia.org
- How to Become a TV or Film Director |... - gettingting.com

Ähnliche Suchanfragen:

- produzent film
- producer film

Google search results for "nurse".



The search results for "nurse" include:

- What a nurse really wants from onboard... - globesizing.com
- The Nursing Shortage What... - untae.com
- 8 Steps To Work in The U.S. As A Foreign Ed... - nurse.org
- Celebrating 10 Years of Oncology Nurse Adv... - oncologynursesboard.com
- Nurses' Critical - and Often Overlooked - Role... - saefirm.com
- Skills for Success: Wha... - mistrynurse.com
- What Type of Nurse Should I Be? - Nurs... - nursing.edu
- Nursing Degrees Explained | All Nursing Sc... - allnursingdegrees.com
- How to Become a Certified Nurse Midwife |... - nursespecialistschool.com
- Why Does a Nurse Need Good Com... - epi.edu
- Celebrate National Nurses Week from... - gre.com
- 10 Ways to Help Support New Nur... - dailynurse.com
- Registered Nurse - Career Rankings, Salary... - money.janesta.com
- Nurses: are you utilizing them to their full c... - cutcher.com.au
- Nurses - Transcendent... - tm-women.org
- Your Guide to Student Loan Forgiveness for N... - studentaidhelpers.com
- St Christopher's | Our pioneering nurses -... - stchristophers.org.uk
- Top 5 Differences Between Nurse Practitio... - walsh.edu
- Nurses With Disabilities Find On-The-J... - msn.com
- Staff Nurse Recruitment - Bamsley Ho... - bamsleyhospital.nhs.uk
- 6 Things About Nursing You Should Know... - nurse.org
- How to Become a Nurse - E... - thebalancecareers.com
- Nurse Definition and S... - vella@dictionary.com
- 7 Things That Cause Nurse Turnover (and 8 Things That... - tagup.com

Ähnliche Suchanfragen:

- nhs
- apprenticeship
- national nurses
- apprentice
- travel nurse
- registered nurse
- degree
- nurses week
- nurses nightingale
- job
- hospital
- nurse practitioner
- nursing school
- patient
- medical



Daten haben einen BIAS

+

KI arbeitet mit Daten

=

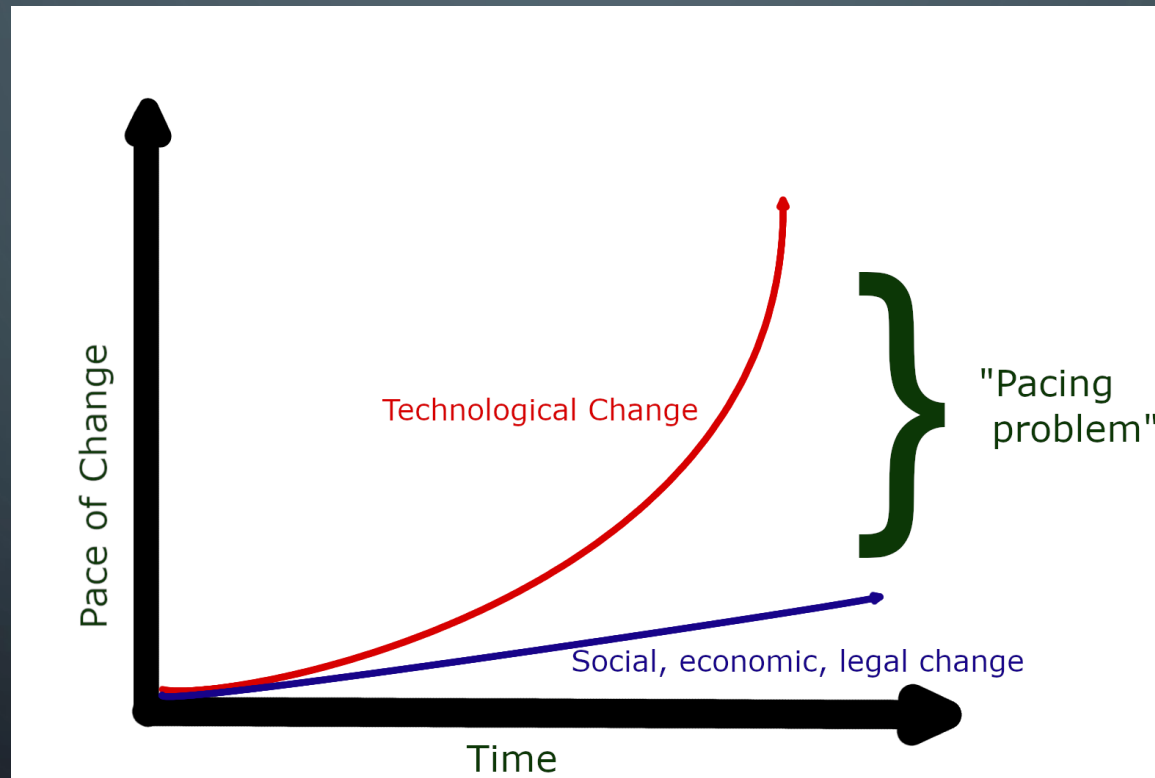
Die **KI** hat einen **BIAS**



# WARUM REFLEKTIERT DIE KI UNSERE GESELLSCHAFTLICHEN PROBLEME WIEDER?



# PACING PROBLEM



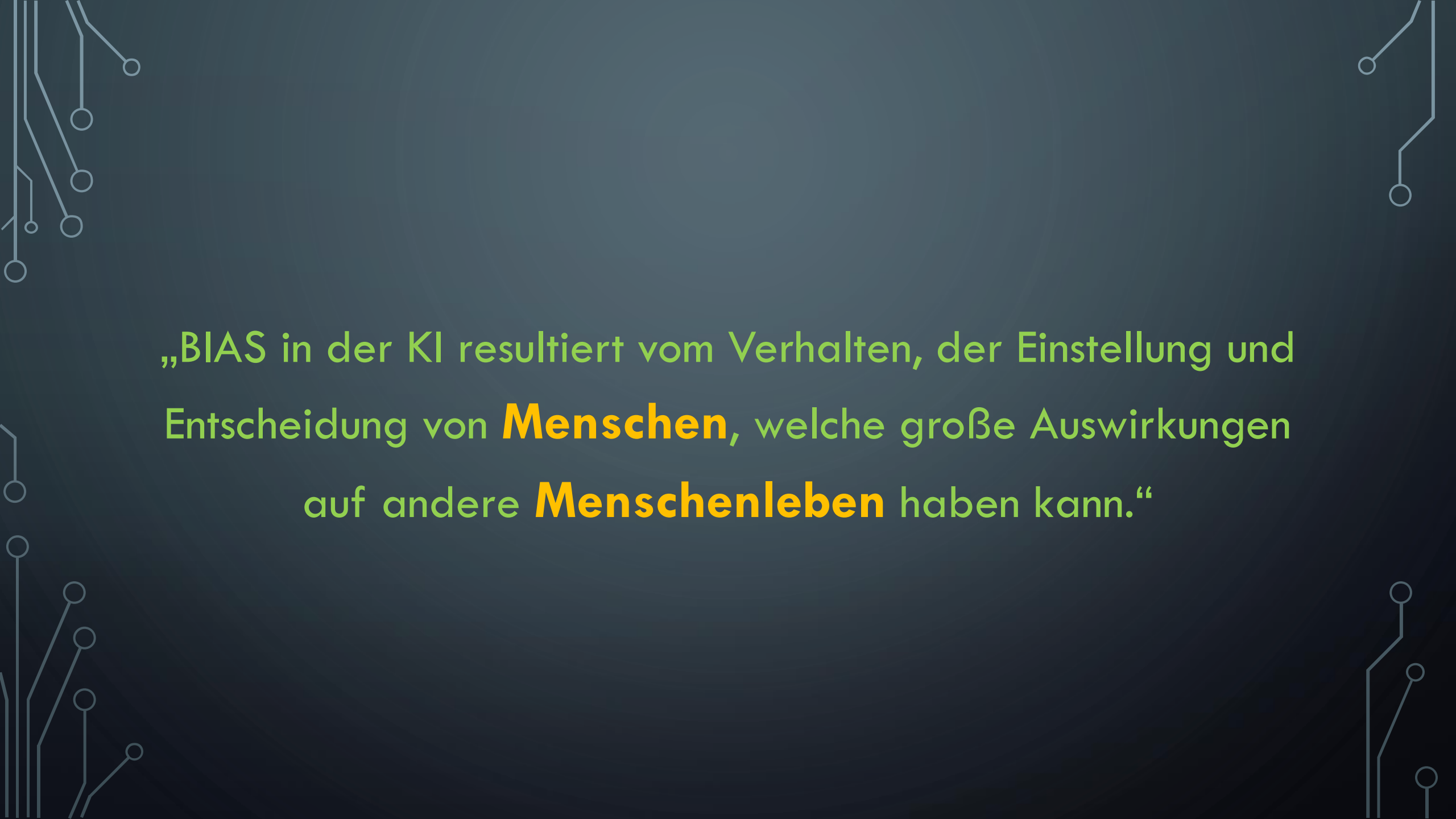
„Gesetze und Verordnungen können mit Technologien nicht mithalten!“

# BEISPIELE GENDER BIAS IN DER KI

- Personal assistants (e.g. Alexa, Siri etc.) vs. IBM Watson, Salesforce Einstein
- Amazon AI recruiting process – systematische Diskriminierung von Frauen
- Gesichtserkennungstechnologien von wichtige Technologie-Giganten zeigen Bias in Hautfarbe und im Geschlecht





The image features a dark blue background with white, stylized circuit board traces in the corners. These traces consist of straight lines and small circles, resembling electronic components or data paths. The traces are located in the top-left, top-right, bottom-left, and bottom-right corners, framing the central text.

„BIAS in der KI resultiert vom Verhalten, der Einstellung und Entscheidung von **Menschen**, welche große Auswirkungen auf andere **Menschenleben** haben kann.“



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WAS KÖNNEN WEITERE RISIKEN SEIN?

# RISIKEN VON BIAS IN DER KI

- Projizieren von vergangenen und präsenten Vorurteilen in die Zukunft
- Gesundheitliche Folgen in der Zukunft  
(e.g. dummy crash tests)
- Historische und soziale Ungleichheiten  
(e.g. Kreditwürdigkeit)





„IT IS EASIER TO SPLIT AN ATOMIC  
NUCLEUS THAN A PREJUDICE.“

-Albert Einstein

The image features a dark blue background with white, stylized circuit board traces in the four corners. These traces consist of straight lines of varying lengths and angles, ending in small white circles, resembling a network or data flow diagram.

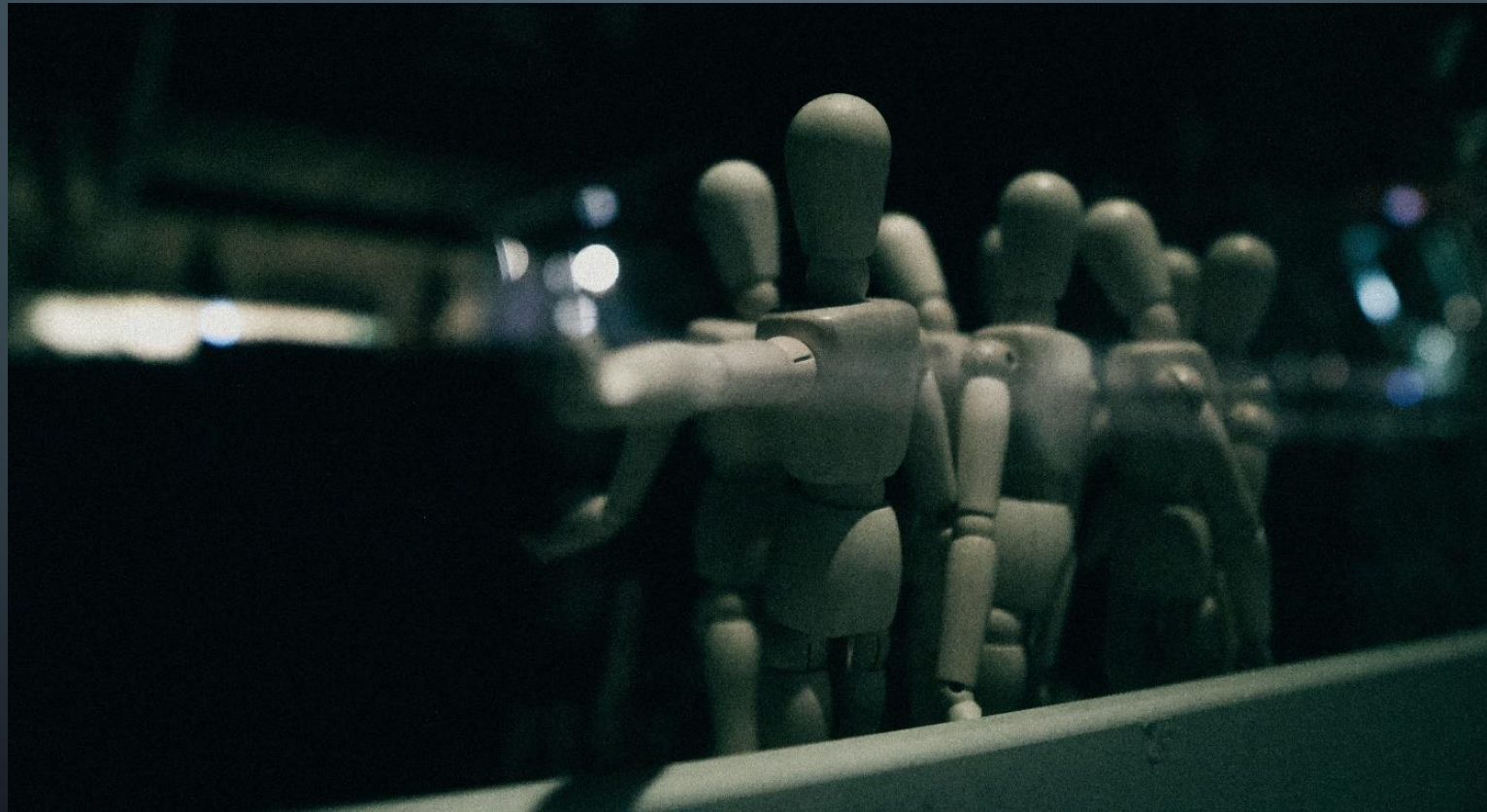
# WELCHE CHANCEN KANN DIE KI ALS TECHNOLOGIE BIETEN?

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„KI IST EINE QUERSCHNITTSTECHNOLOGIE  
UND KANN DIE VIELFALT BESTÄRKEN.“



# LÖSUNGEN FÜR DIE REDUZIERUNG DES BIAS IN DER KI

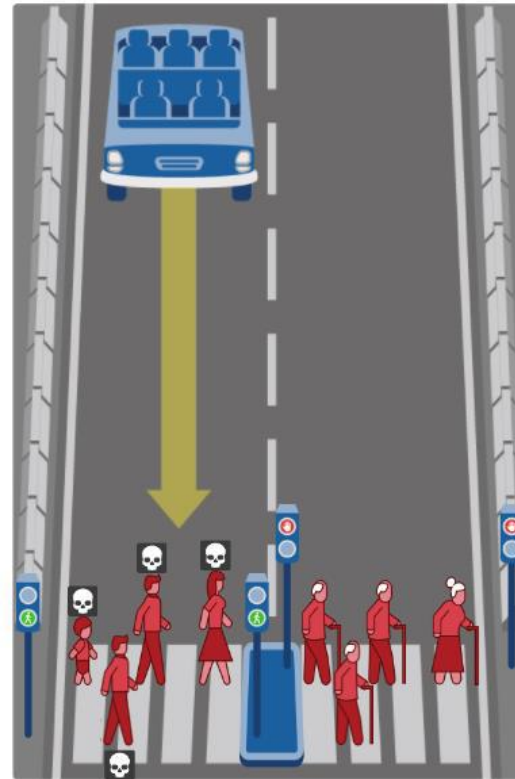


- Globales und Rechtliches KI Framework
  - Sicherstellung von gut erforschten und entwickelten Machine Learning Technologien
  - Ziel: Menschheit helfen, die Einführung von KI Systemen fair zu steuern
    - „Ethiks sind in jeder Kultur verschieden“

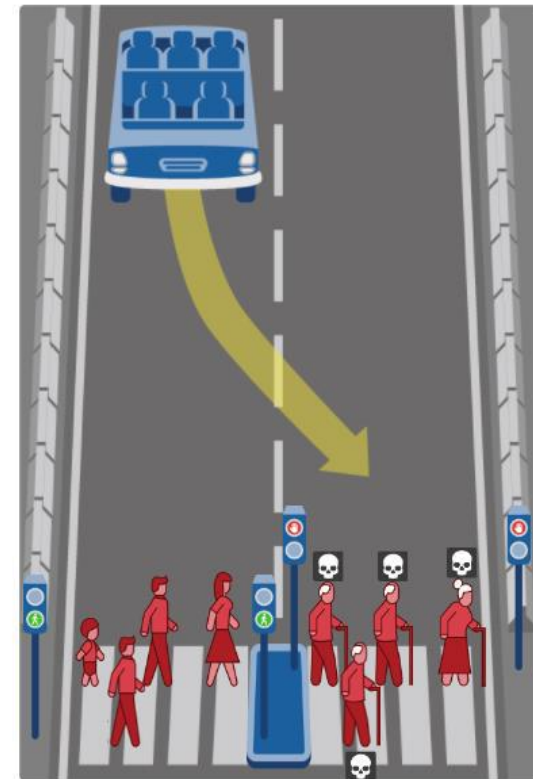


Kann ein selbst-fahrendes Auto  
ethisch handeln, wenn  
Menschen Ethik für sich  
selber definieren?

What should the self-driving car do?



Show Description



Show Description

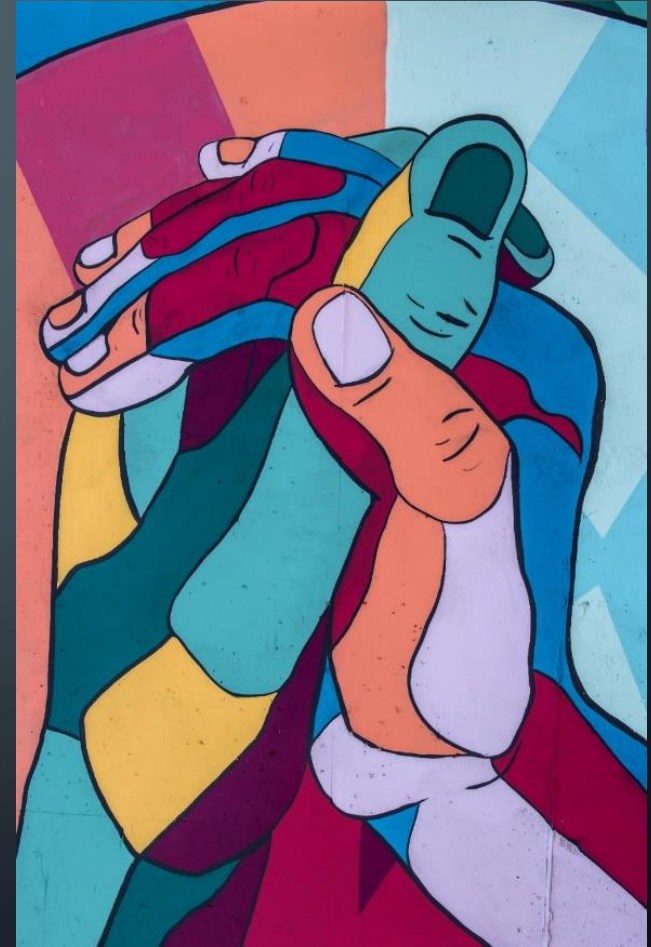


- Ethik, Fairness und BIAS müssen am Start jedes Projektes erfolgen
  - Kein Nachzügler!



- Diversity

- Diverse Teams und Perspektiven bei der Entwicklung von KI-Anwendungen
- „Diversity prediction theorem“

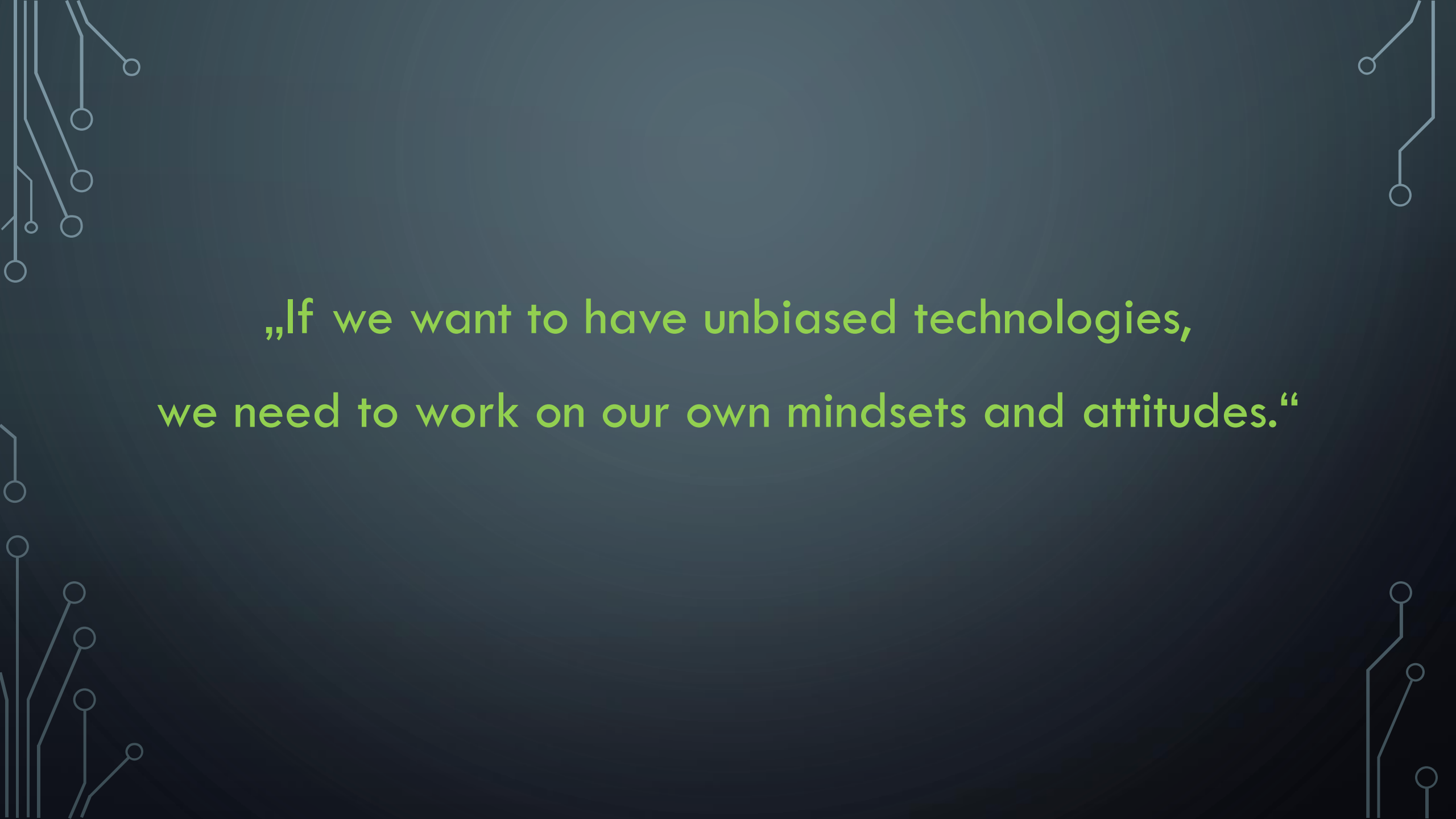




- Train the kids!

- Problem geht auf Kindheit zurück: Spielzeuge, Farben
- Erziehung in Schulen und Universitäten: Vorbilder und Mentoren schaffen
- Unterrichten und zur Verfügung stellen von Ethik Trainings für Studenten



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„If we want to have unbiased technologies,  
we need to work on our own mindsets and attitudes.“

VIELEN DANK FÜR  
IHRE AUFMERKSAMKEIT! 😊