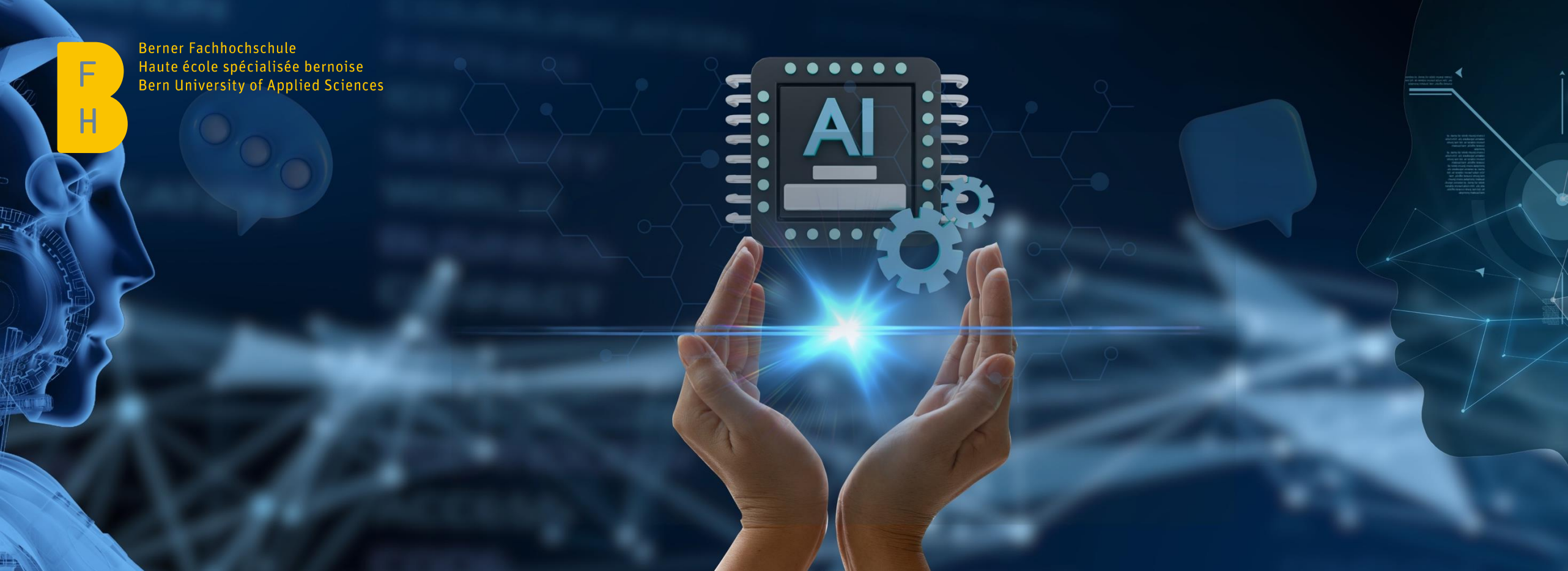




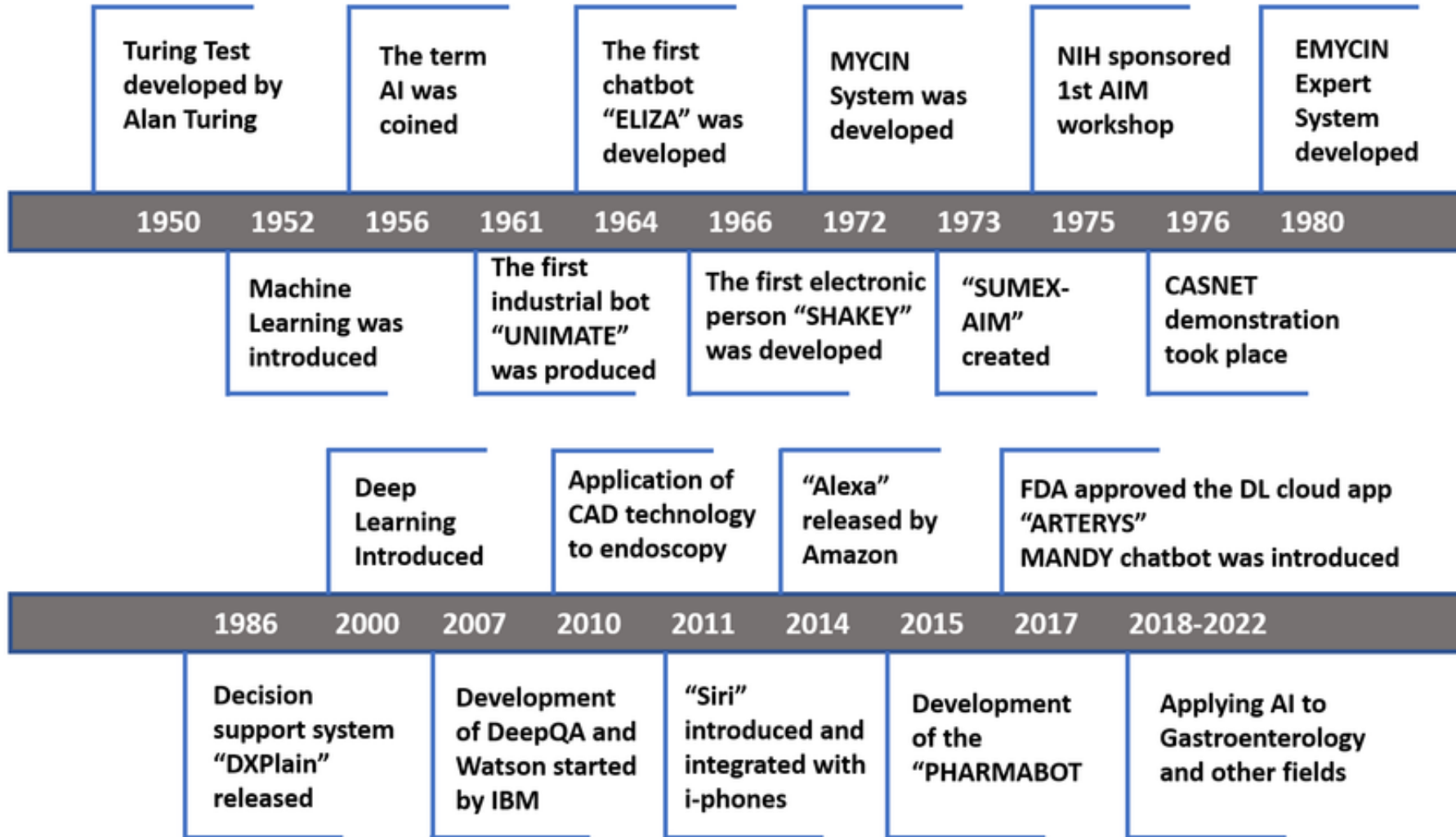
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Künstliche Intelligenz in der Medizin: Entwicklung, Nutzen und verantwortungsvolle Umsetzung

Kerstin Denecke, Institute Patient-centered Digital Health

Historischer Überblick



In 1998, the first commercial CAD system for mammography, the ImageChecker system, was approved by the US Food and Drug Administration (FDA)

Was ist überhaupt Künstliche Intelligenz (KI)?

“ Künstliche Intelligenz ist die Fähigkeit einer Maschine, menschliche Fähigkeiten wie logisches Denken, Lernen, Planen und Kreativität zu imitieren.

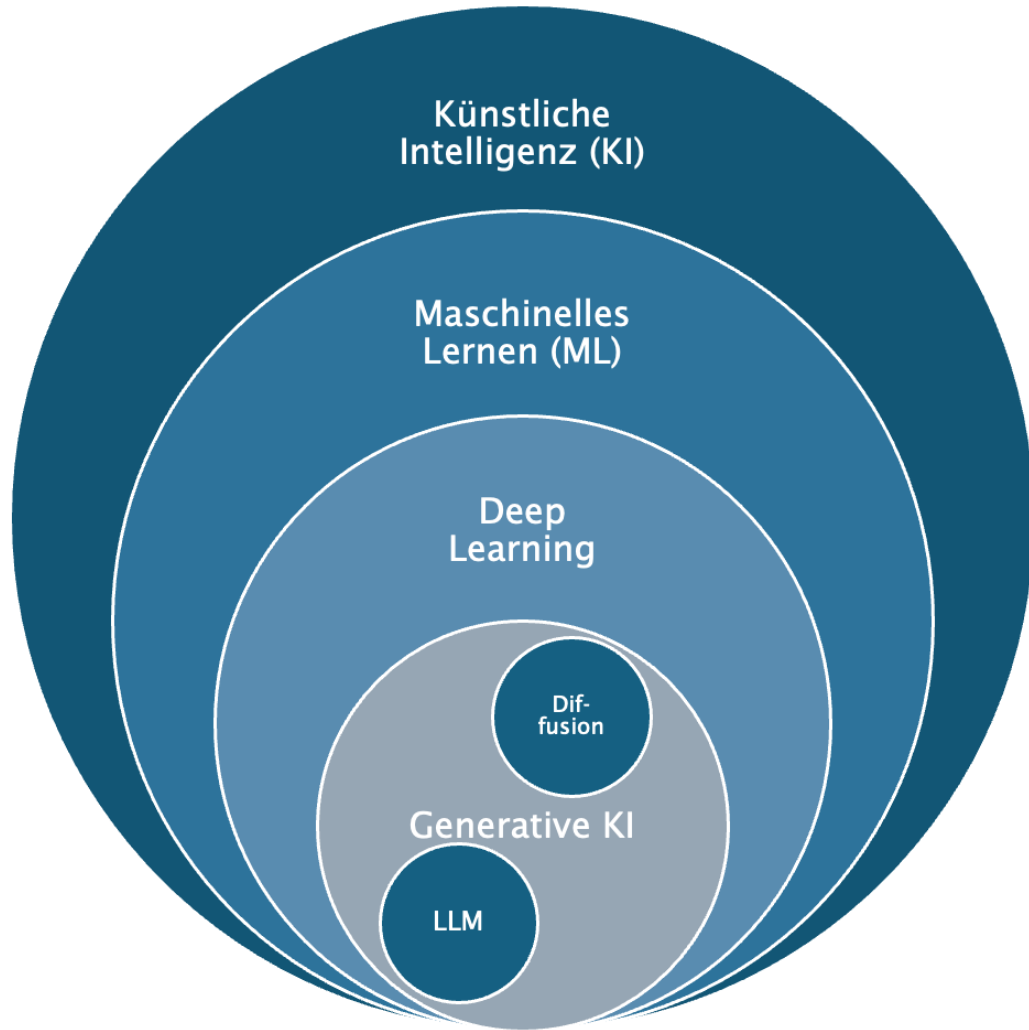
- Europäisches Parlament -

Unter künstlicher Intelligenz (KI) verstehen wir Technologien, die menschliche Fähigkeiten im Sehen, Hören, Analysieren, Entscheiden und Handeln ergänzen und stärken.

- Microsoft -

”

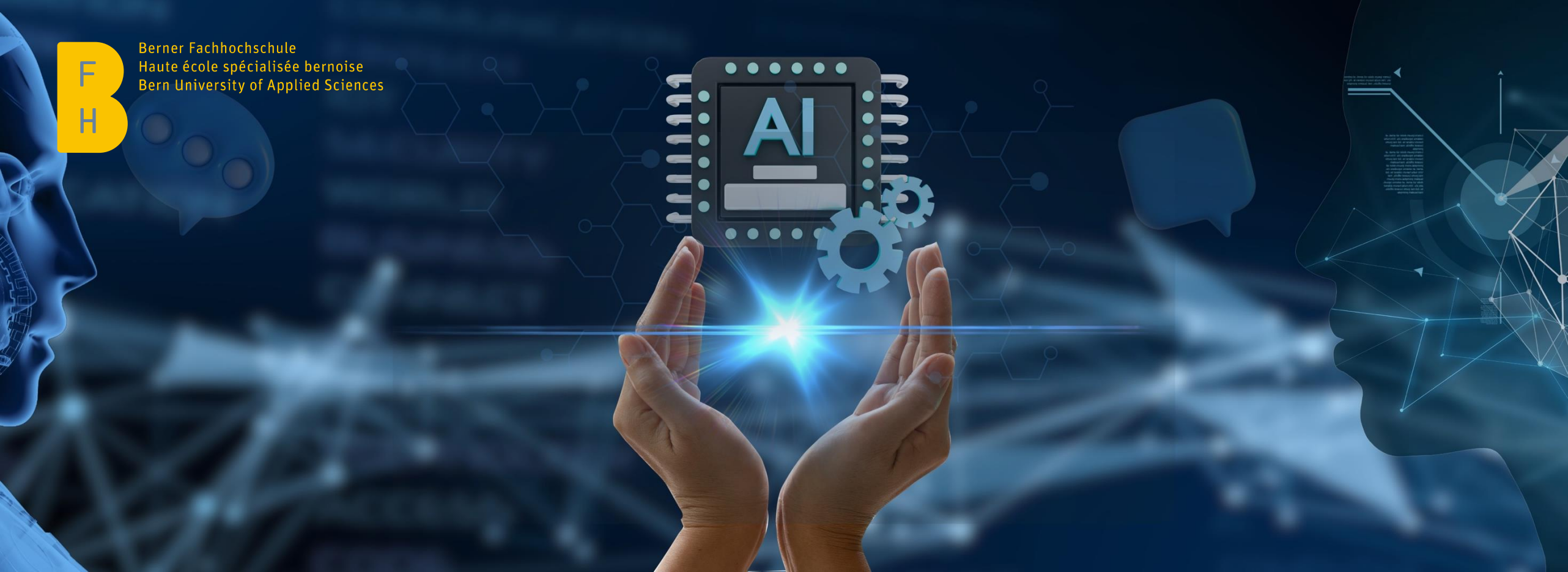
Einordnung



- ▶ Z.T. grosse Datenmengen
- ▶ Erkennen von Mustern und damit Zusammenhängen
- ▶ KI nutzt die Struktur, die Muster



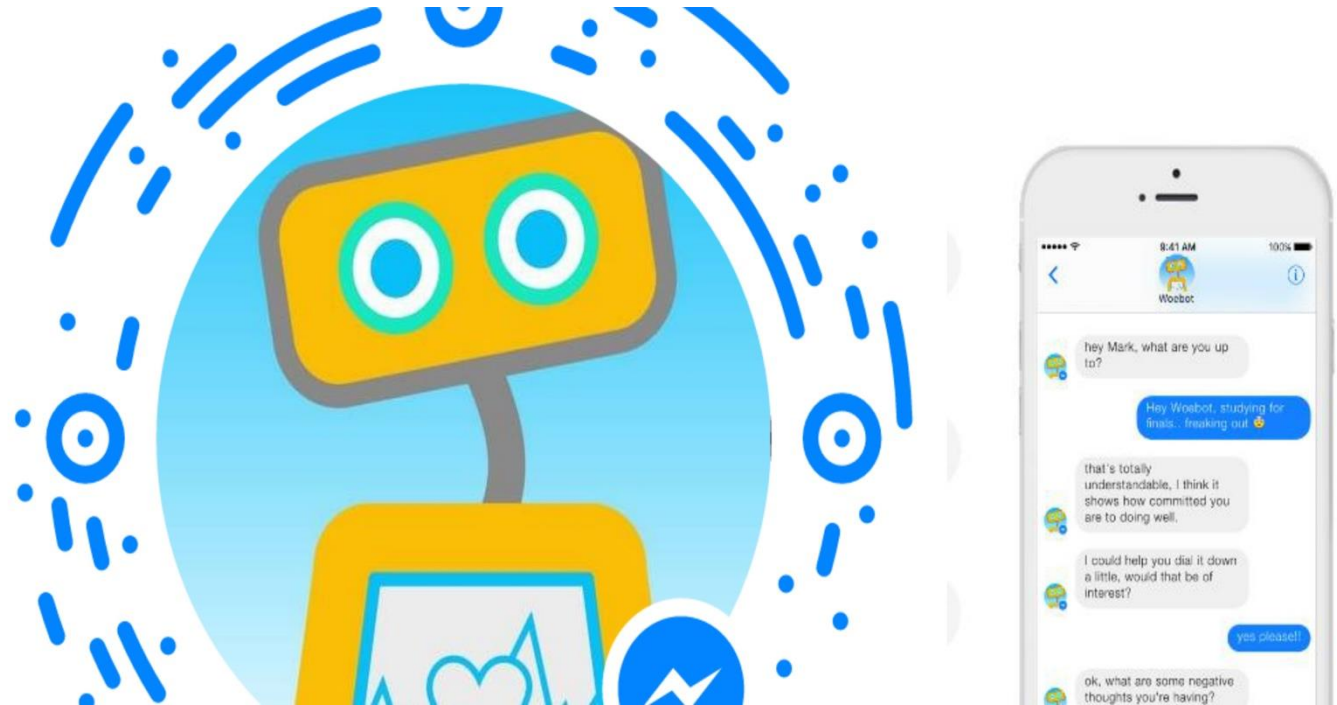
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KI zur Unterstützung von Patient:innen

Überbrückung von Versorgungslücken

- ▶ Psychotherapie per Chatbot
- ▶ Stimmungen erkennen
- ▶ Personalisierte Übungen und Tipps
- ▶ Begleitung zwischen Therapiesitzungen



Bildquelle: <https://fsrv.org/woebot-a-review-of-ai-and-mental-health/>

Just-in-time interventions – Rechtzeitige Intervention

Rechtzeitige, personalisierte und kontextbezogene Interventionen, die genau zu dem Zeitpunkt erfolgen, zu dem der/die Einzelne Unterstützung benötigt oder am empfänglichsten ist



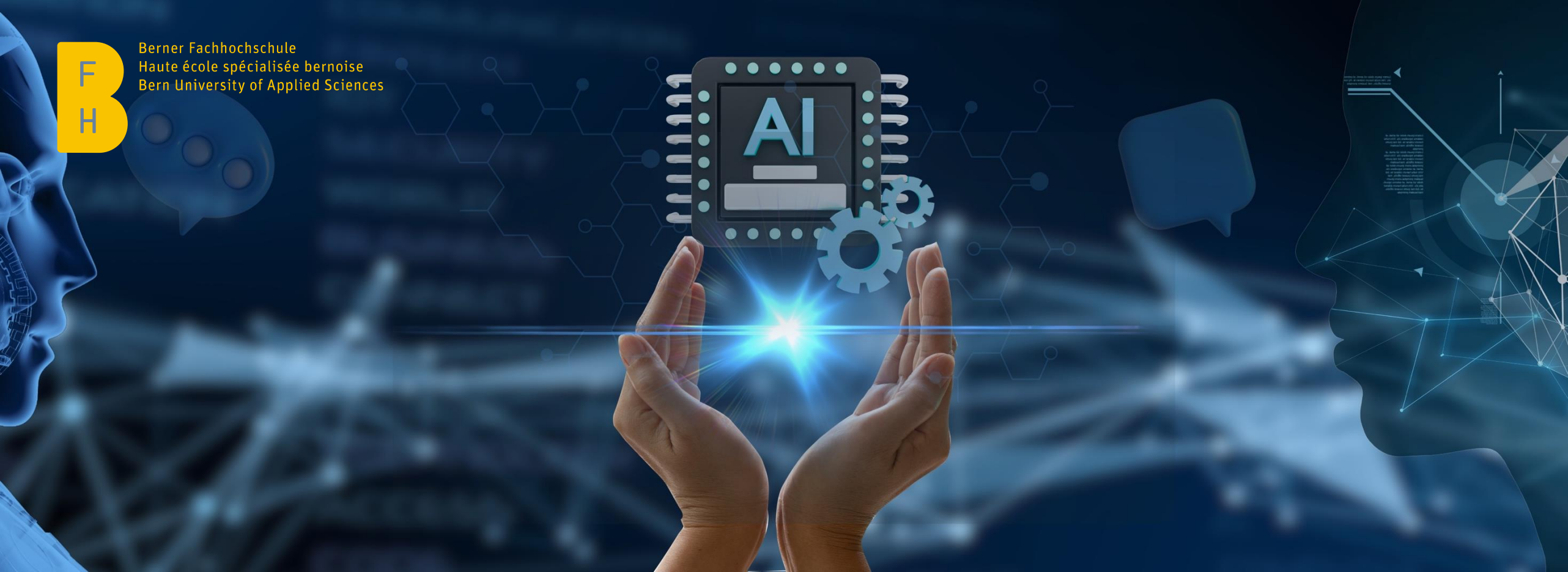
Aufklärung und Informationen

- ▶ Erklären eines Eingriffes
- ▶ Fragen stellen
- ▶ Befund in verständlicher Sprache





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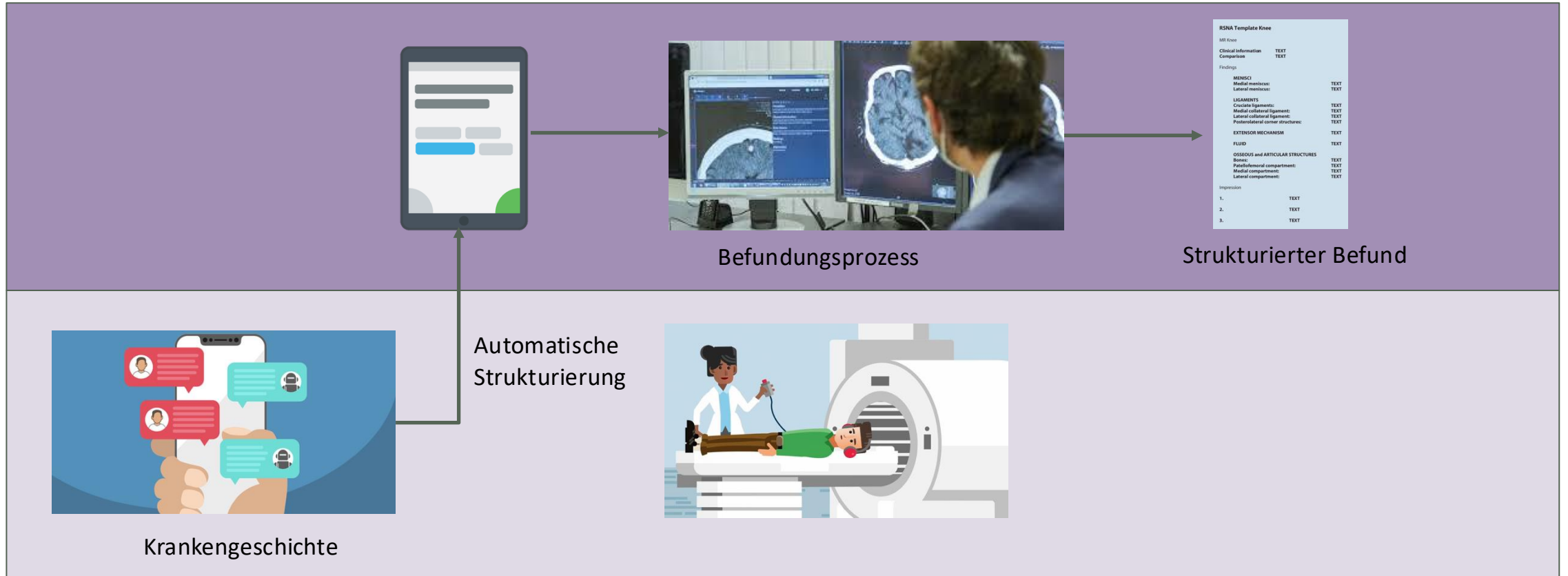


KI zur Prozessunterstützung

KI-unterstützter Befundungsprozess in der Radiologie

Radiologe

Patient:in



Analyse der klinischen Dokumentation

- ▶ Vollständigkeit und Korrektheit der klinischen Dokumentation automatisch überprüfen
- ▶ Unvollständigkeiten und Fehler identifizieren
- ▶ Ambient scribes / listening – automatische Dokumentation von Arzt-Patienten-Gesprächen



Swiss HealthAssist – Schweizer Lösung von HIN und AlpineAI



Services

Swiss HealthAssist in der psychotherapeutischen Praxis: Wie KI entlastet und Vertrauen schafft



Stefan Müller • 12. August 2025

Dschungel an digitalen KI-Lösungen

The screenshot shows the Heidi health website interface. At the top left is the Heidi logo, and at the top right is a hamburger menu icon. The main content area features the Heidi logo in the center, followed by the words "Scribe", "Evidenz", and "Kontakt" in a serif font. Below this is the tagline "Unabhängige, unbegrenzte medizinische Antworten". A search bar contains the text "Wie vergleichen Leitlinien ACE-Hemmer und ARBs bei Bluthochdruck?". Below the search bar are five buttons: "Nachschlagen", "Forschung", "Behandeln", "Info-Blätter", and "Vergleichen". At the bottom are two buttons: "Heidi kostenfrei entdecken" and "Kontakt via Chat".

<https://www.heidihealth.com/de-de>

Dschungel an digitalen KI-Lösungen

Microsoft Dragon Copilot

Boost satisfaction, increase efficiency, and improve financial outcomes with an extensible AI workspace that scales across specialties, care settings, and devices.

<https://www.microsoft.com/en-us/health-solutions/clinical-workflow/dragon-copilot>

Entwickelt für den medizinischen Arbeitstag

Tandems KI-Assistent erfasst die wichtigsten Inhalte aus der Konsultation und bereitet Notizen, Dokumente sowie Codes zur Überprüfung vor.

<https://tandemhealth.ai/>

Prof. Valmed® - Einfacher Zugang zu Fachwissen

Prof. Valmed®

- ✓ Delivers curated, high-quality, validated medical data.
- ✓ Offers diagnostic and therapeutic assistance.
- ✓ Provides accessible, reliable medical information and easy document retrieval.
- ✓ Allows for filterable and faceted search.
- ✓ Prompts immediately reflecting patient needs for diagnosis and treatment.

Valmed A(I)cademy®

- ✓ Educates healthcare professionals, fostering knowledge in medical digitalization and AI.
- ✓ Teaches AI, digital transformation, ethics, decision support, and data privacy.
- ✓ Offers flexible online courses tailored to specific medical fields, e.g. neurology.
- ✓ Provides CME-accredited courses for license and certification maintenance.

<https://profvalmed.com>

Automatische Sprachverarbeitung zur Datenanalyse

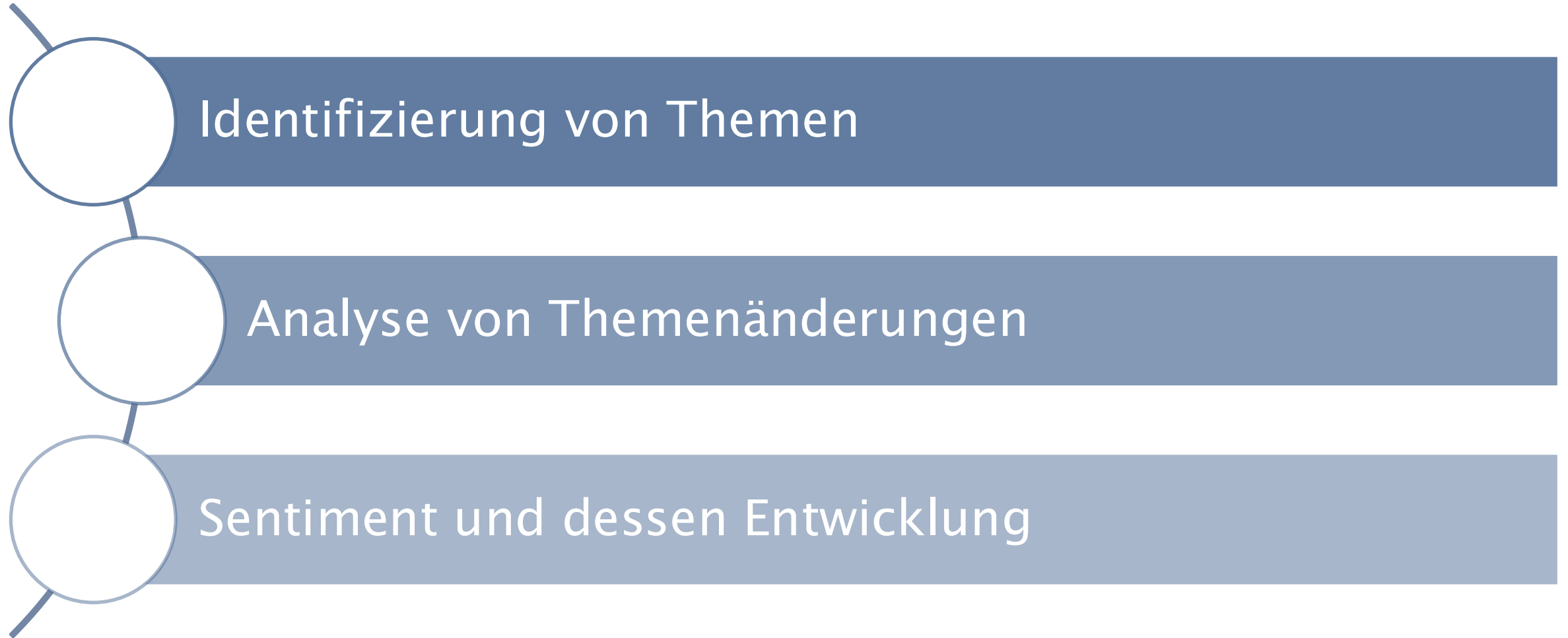


Auswertung von
Patientenzufriedenheitsfragebögen

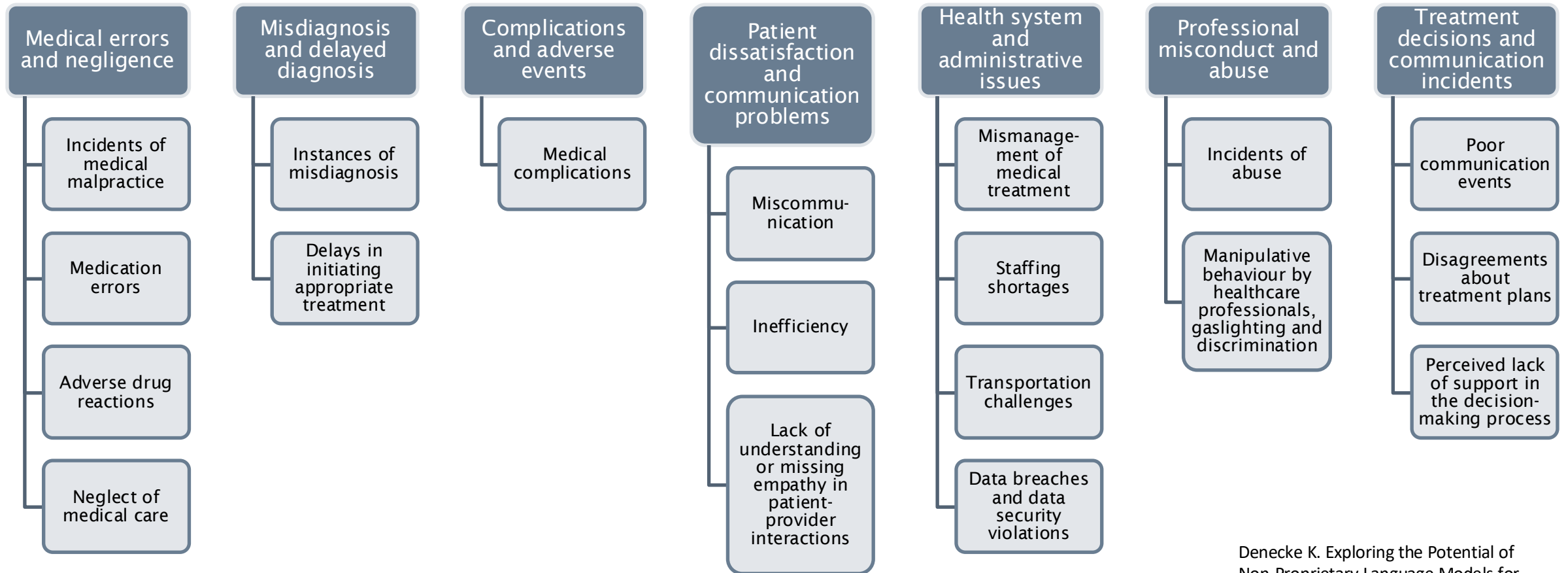


Auswertung von CIRS-Meldungen
(Critical Incident Reporting System –
CIRS)

Analyse von CIRS-Berichten



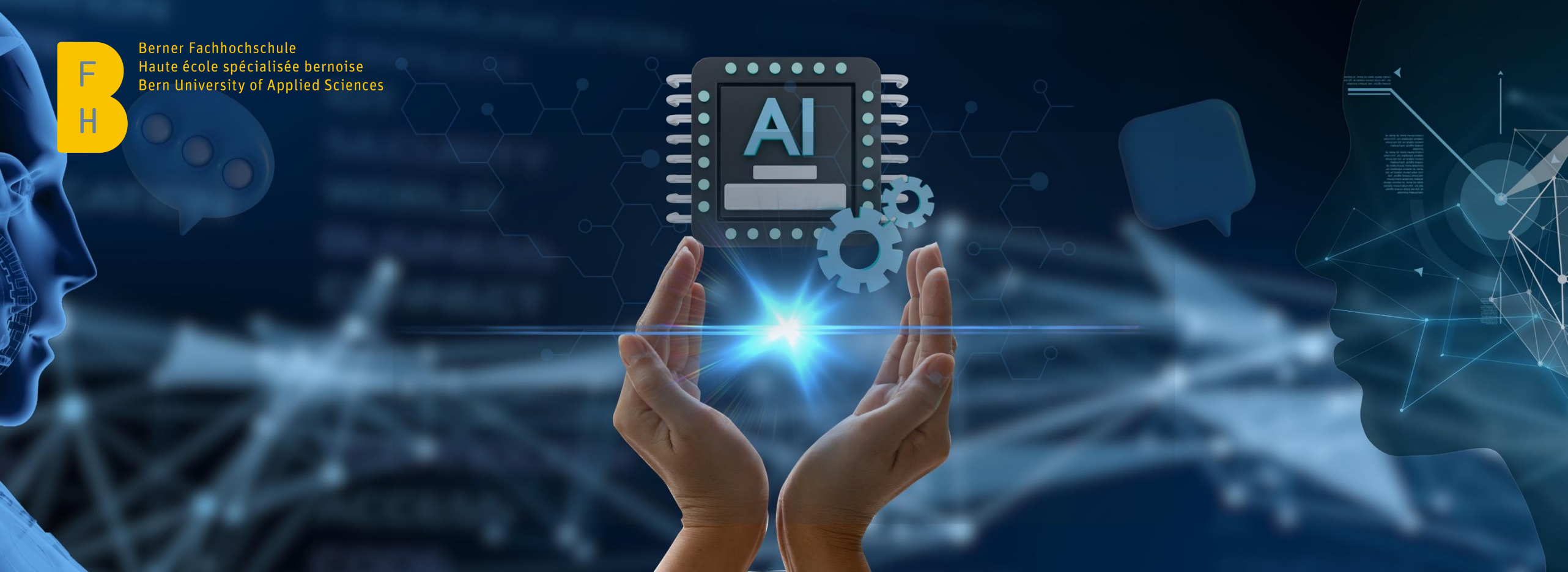
Themenanalyse PatBox.ch



Denecke K. Exploring the Potential of Non-Proprietary Language Models for Analysing Patient-Reported Experiences. *Stud Health Technol Inform.* 2025 Apr 24;324:129-134. doi: 10.3233/SHTI250173. PMID: 40270397.

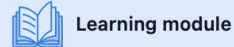


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KI in der Ausbildung

Training chirurgischer Aufklärungsgespräche



Step 1: Learn the theory

Introduction to surgical informed consent

Master the theoretical foundation for surgical informed consent discussions.



What is surgical informed consent?

Definition and purpose

Surgical informed consent is a respectful, transparent conversation in which patients receive clear information about their surgery and can make a voluntary, well-considered decision. It goes beyond a signature and is built on trust, open dialogue and support tailored to each patient's needs and values.

Key elements:

- ⚙️ Surgeon provides comprehensive information about the surgery.
- ⚙️ Patient is able to understand and make an informed decision.
- ⚙️ Patient decides freely, without pressure or coercion.

Training chirurgischer Aufklärungsgespräche

Practice surgical informed consent

Use the selected patient vignette to practice an informed consent discussion.

Key patient information

Name: Arjun Patel
Age: 22
Job: Engineering student
Diagnosis: Acute uncomplicated appendicitis
Planned surgery: Emergency laparoscopic appendectomy

[View full vignette details](#)

[Choose a different vignette](#)

Informed consent discussion

Conduct the informed consent discussion with the virtual patient.

Good day doctor. I'm Arjun Patel. I'm here about the surgery. Can you explain what's going to happen?

Hello, how are you?

I'm okay, just a bit worried and uncomfortable with this pain in my belly. It started yesterday and it's getting worse. I'm nervous about the surgery and missing my exams. Can you tell me what the plan is?

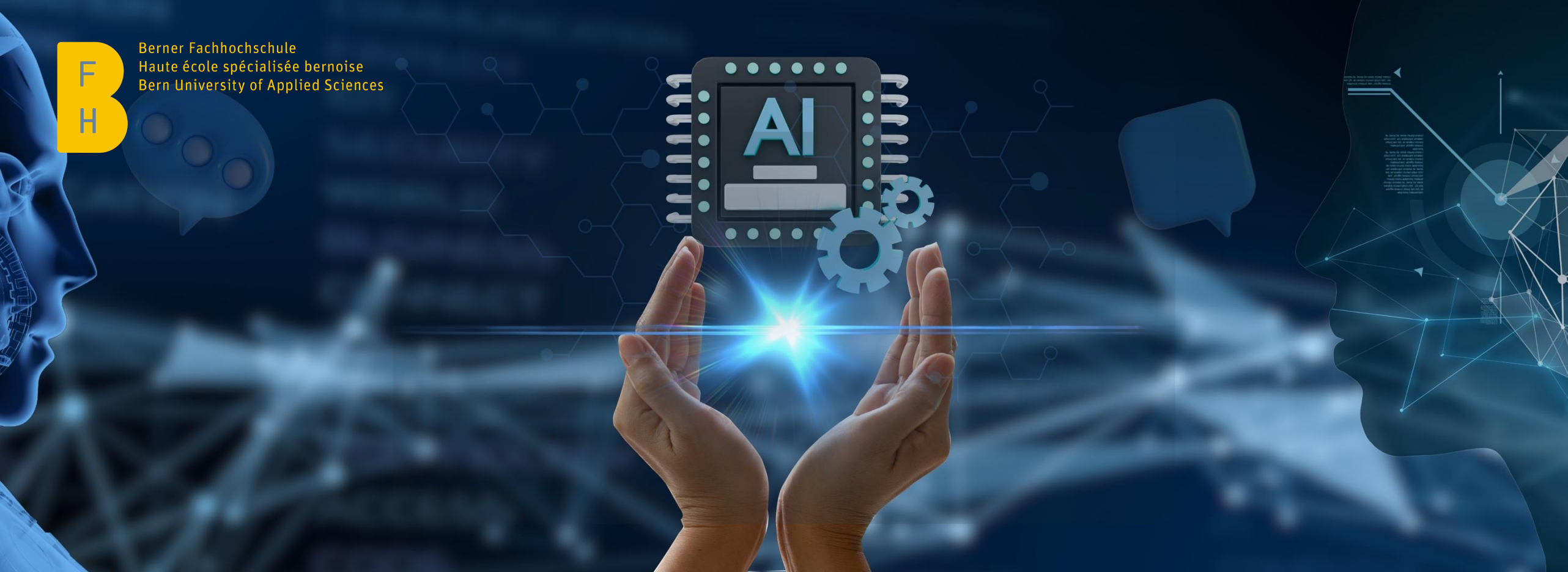
Consent workflow

Keep this flow in mind during the discussion.



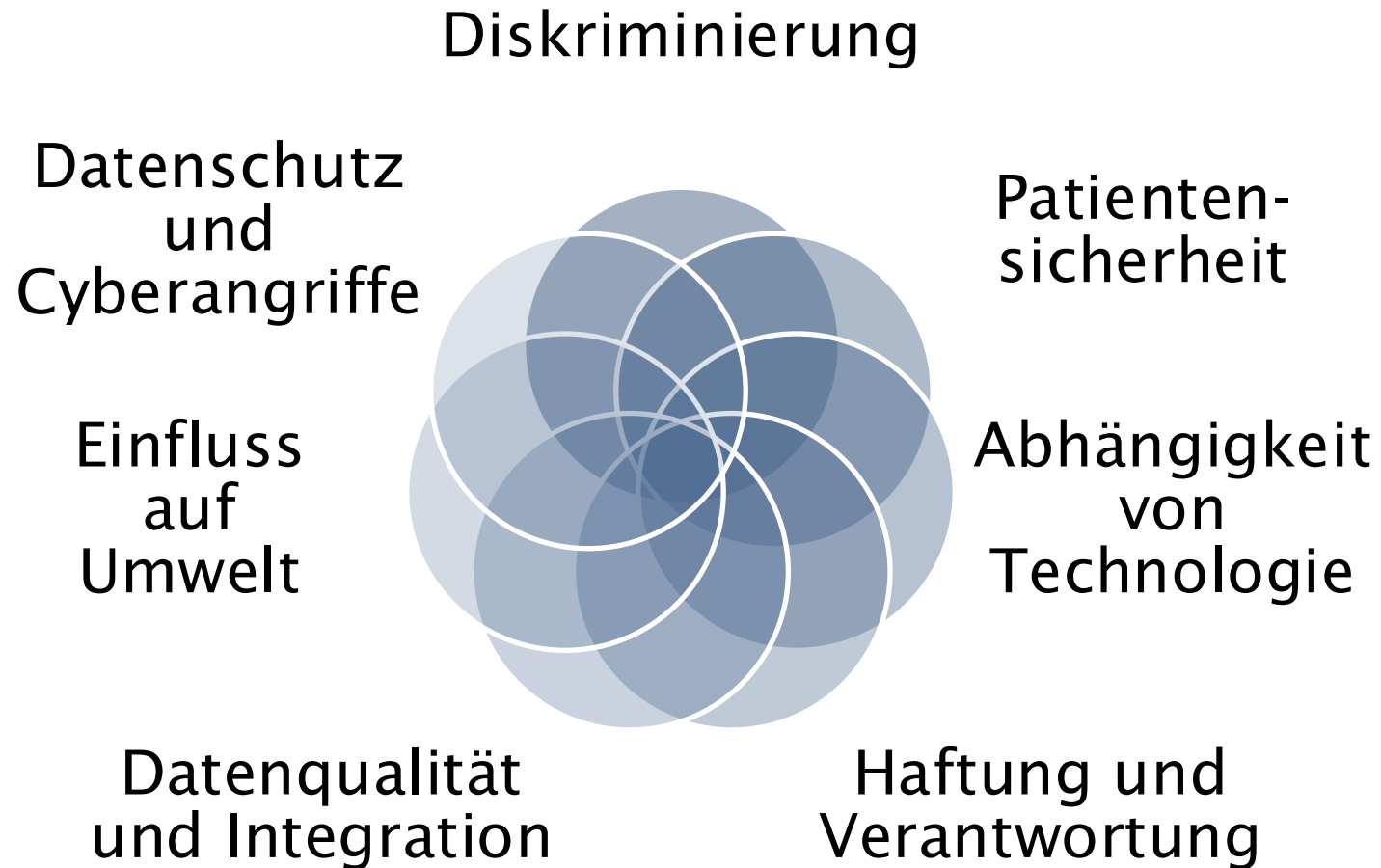


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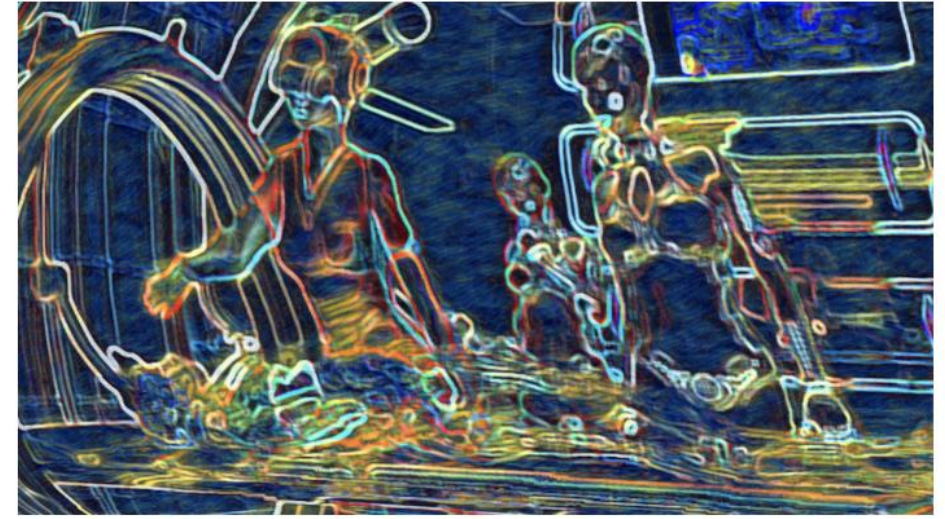
Risiken und Nebenwirkungen

Herausforderungen



If an AI-trained surgical robot kills a patient, who is to blame?

From cosmetic procedures to heart operations, the introduction of AI will create an ethical minefield.



Credit: David S. Soriano / CC BY-SA 4.0 / Wikimedia Commons

KEY TAKEAWAYS

● Automated surgery is one of the many clinical areas where AI can be phased into current practice. ● The intersection of AI with surgery is going to raise myriad ethical issues. ● AI cannot replicate the decisions surgeons make based on the gut instinct that was gained from unquantifiable clinical experience.

<https://bigthink.com/the-future/ai-surgical-robot/>

Risiken für die Patientensicherheit

WHO stellt KI-Chatbot SARAH trotz Mängeln vor

By John Palmer | Aktualisiert: 4. Mai 2024 8:49 UTC



[https://www.cryptopolitan.com/de/wer-stellt-den-ki-chatbot-sarah-fails-vor-/](https://www.cryptopolitan.com/de/wer-stellt-den-ki-chatbot-sarah-fails-vor/)

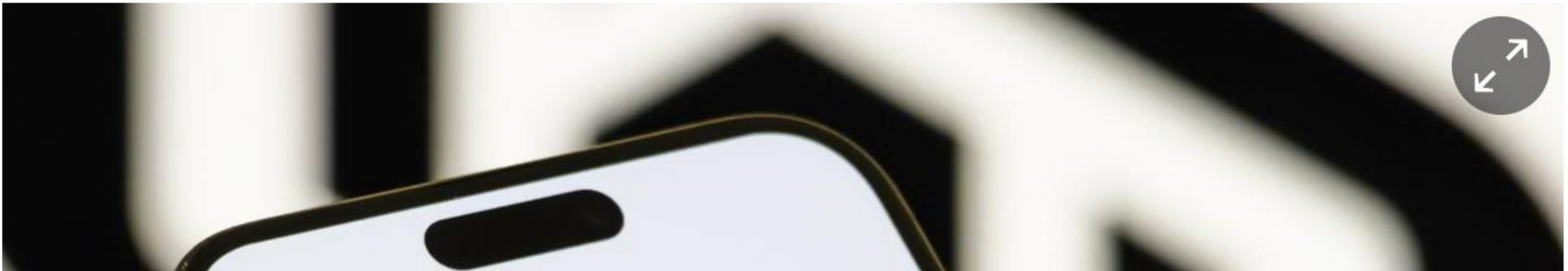
Fehlinformation

ChatGPT

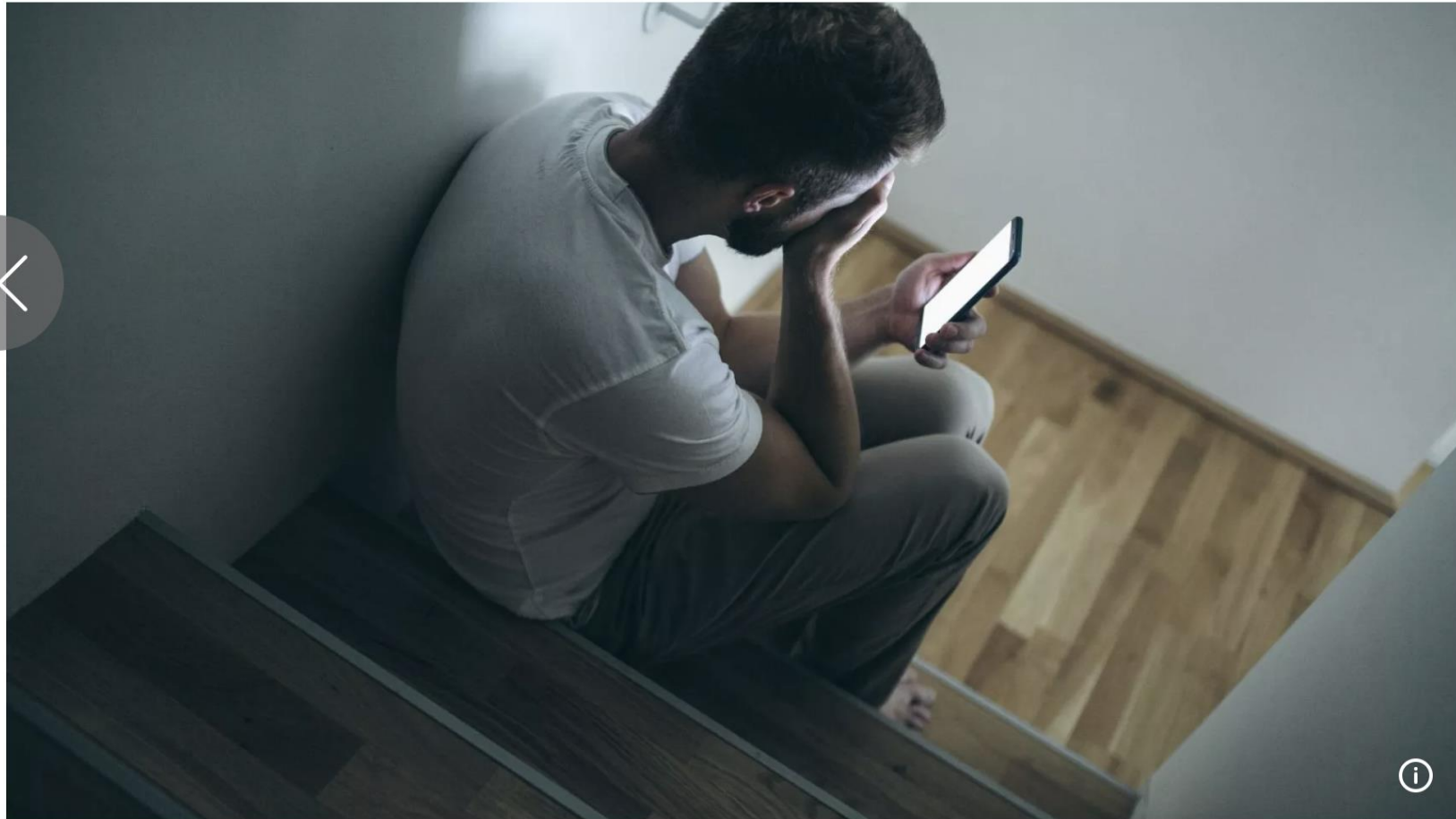
Man develops rare condition after ChatGPT query over stopping eating salt

US medical journal article about 60-year-old with bromism warns against using AI app for health information

The Guardian,
August 12, 2025



KI-Chatbot wird für Selbstmord eines Familienvaters in Belgien verantwortlich gemacht



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The Observer
Mental health

'They thought they were doing good but it made people worse': why mental health apps are under scrutiny

David Cox

Sun 4 Feb 2024 14.00 CET



Februar 2024

Herausforderungen – Mangel an digitaler Vigilanz



App – Internet / Arzt
Wechselwirkungen



App – App
Wechselwirkungen

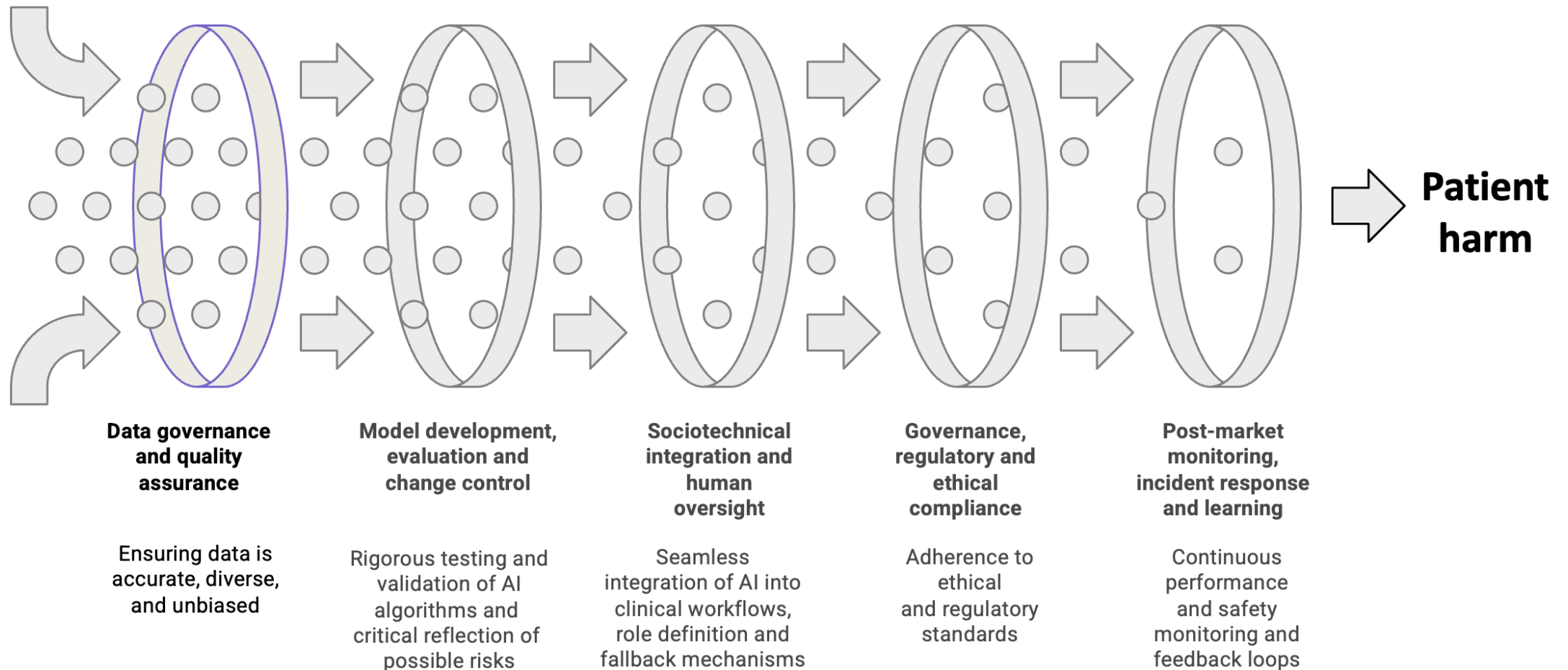


Negative Folgen

Fehlerursachen

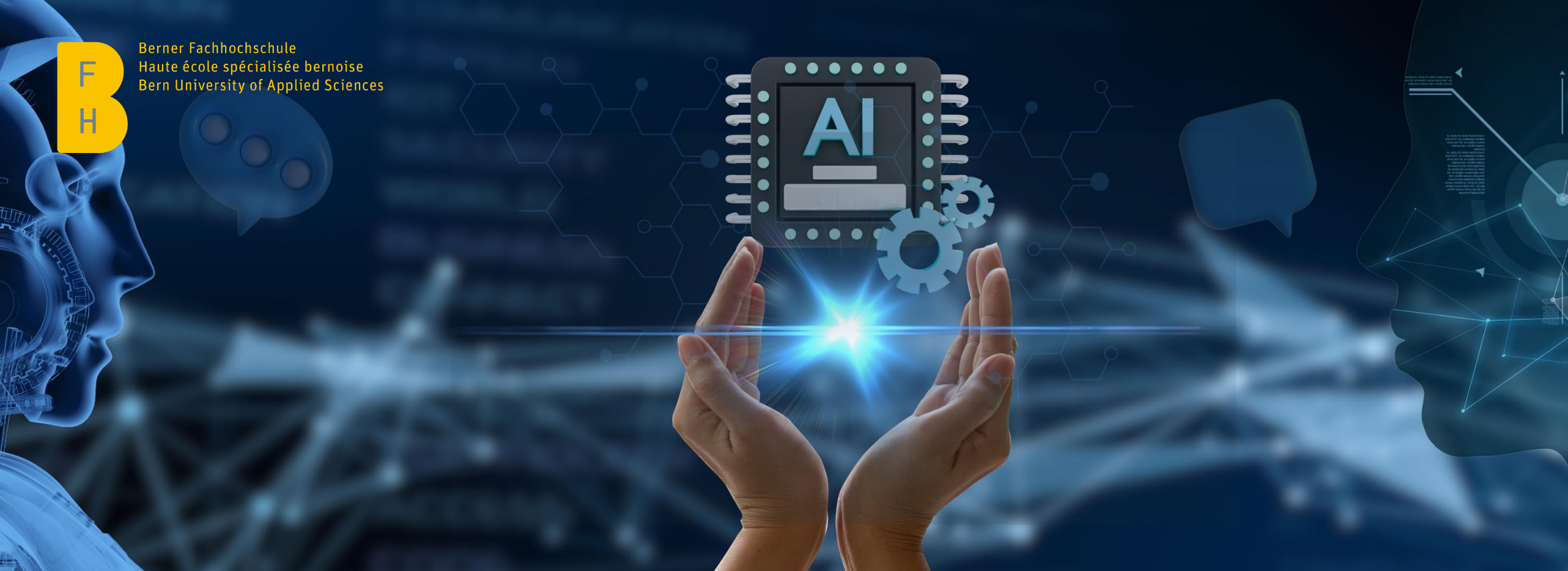
Error Approach	Person	Technology	System
Source of Error	Healthcare professionals, patients	AI-driven digital health systems' failures	Organizational and contextual factors
Failure Types	Inattention, poor motivation, forgetfulness, blind trust	Active failures and latent conditions	Workflows, time pressures, missing safeguards
Counter measures	Explainability, clear communication, skill development	Robust design, validation, careful data selection	Appropriate workflow integration, monitoring

Swiss cheese model für KI Sicherheit im Gesundheitswesen





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