

LECTURE 13: AI, ETHICS, AND THE LAW

Creating Business Value with Generative AI
Fall 2025

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- ➡ Talk about legal, ethical, and moral challenges
- This is not directly part of your final report, but you need to know about for applying these course's knowledge later

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- C. Summary
 - 1. End of the course
 - 2. Handing in your project

THE STEPS AFTER „INNOVATING THE PROCESS BY BUILDING A PROTOTYPE“

Assumption: An app is available as (NiceGUI) prototype and has proven to be useful in first tests. Three groups of steps and challenges arise:

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 - Not everything that is legal, is also ethically or morally desirable
- Legal challenges
 - Make sure app complies with various legal requirements (AI-Act, GDPR, intellectual property, licenses of models & data & software, ...)

AI IMPLIED CHALLENGES IN TERMS OF ETHICS AND MORAL

- Ethics and moral considerations
- „Even if something is legal, it still might be a bad idea.“

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- *Example*: Artefact Profiling Guide

Artefact profiling is a method used to analyze and attribute written artefacts by identifying characteristic material features that can be correlated with a certain geographic origin, author, scribe, or scriptorium. [1] This involves examining colophons, which are annotations added to manuscripts to attribute the work to notable figures, and using these attributions to establish provenance information and an aura surrounding the object. [2] The process of artefact profiling typically involves the following steps: . [1]

1. Identification of characteristic features: Researchers look for specific material features, such as the type of paper, ink, or binding, that can be linked to a particular time period, location, or person [3] .
2. Correlation with known examples: By comparing the identified features with known examples of similar artefacts, researchers can establish a connection between the artefact and its potential origin [4] .
3. Attribution and provenance: Based on the correlation, the artefact can be attributed to a specific author, scribe, or scriptorium, and its provenance can be established, providing valuable information about the object's history and authenticity [5] .
4. Aura and value: Colophons and attributions can create a sense of prestige and value around the object, as they assert the connection to notable figures or events [2] ; [6] Artefact profiling is a valuable tool for historians, archaeologists, and conservators, as it helps to authenticate and date written artefacts, providing insights into their history and cultural significance. [1]

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 - Ask ChatHA what to do!

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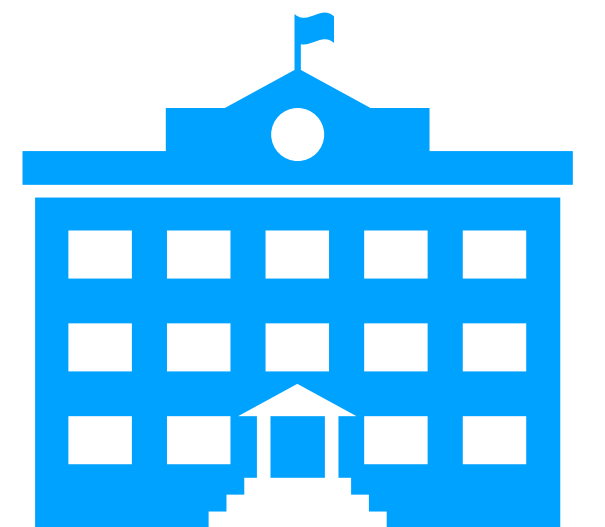
ETHICAL AND MORAL CHALLENGES



Users



Scholars



University

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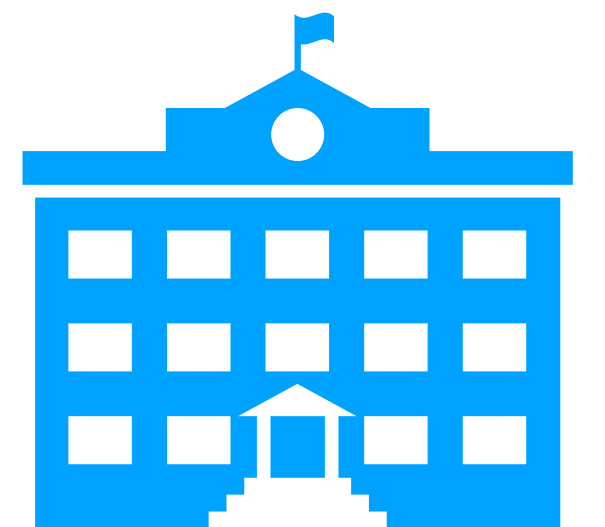
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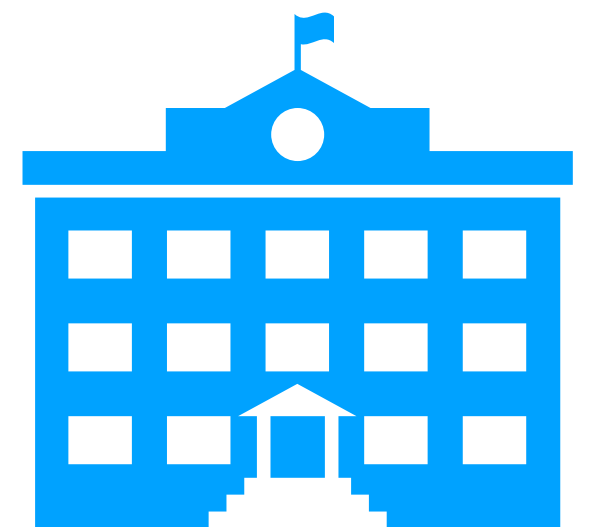
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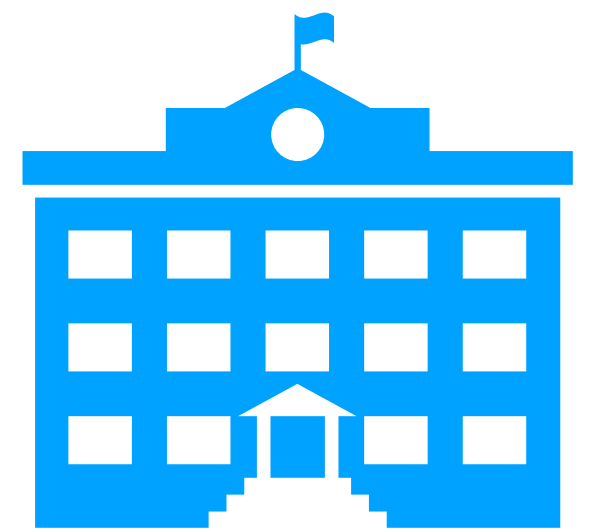
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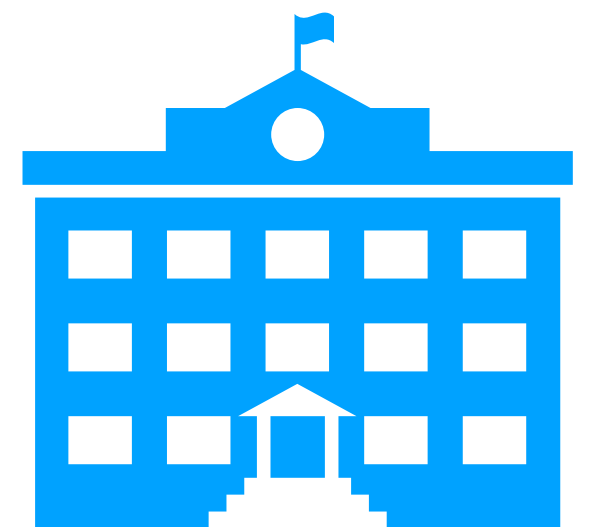
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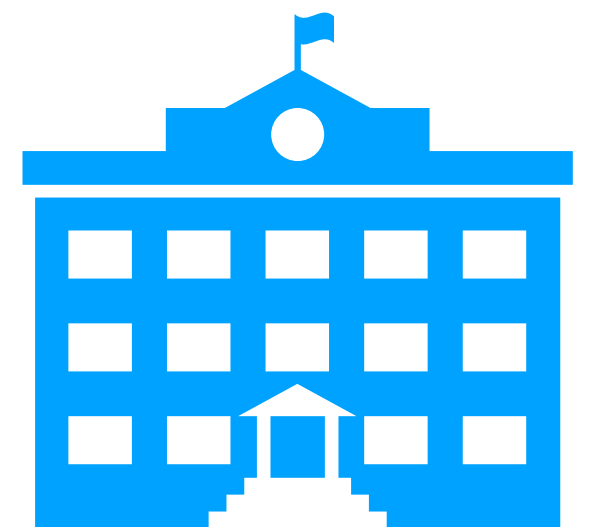
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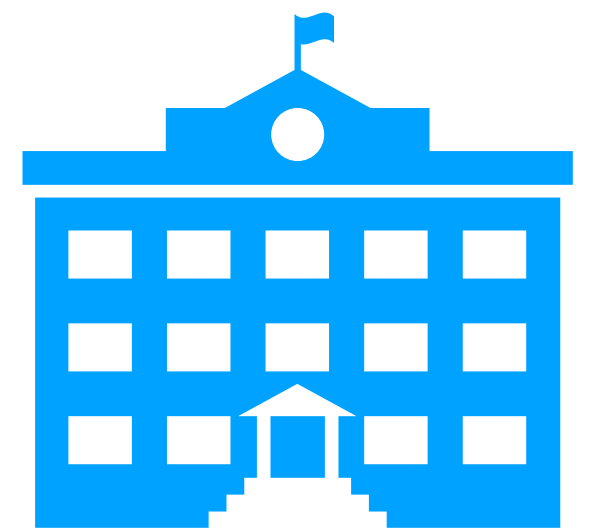
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- Challenges for humanities scientists
 - Require correct and unchanged answers or citations



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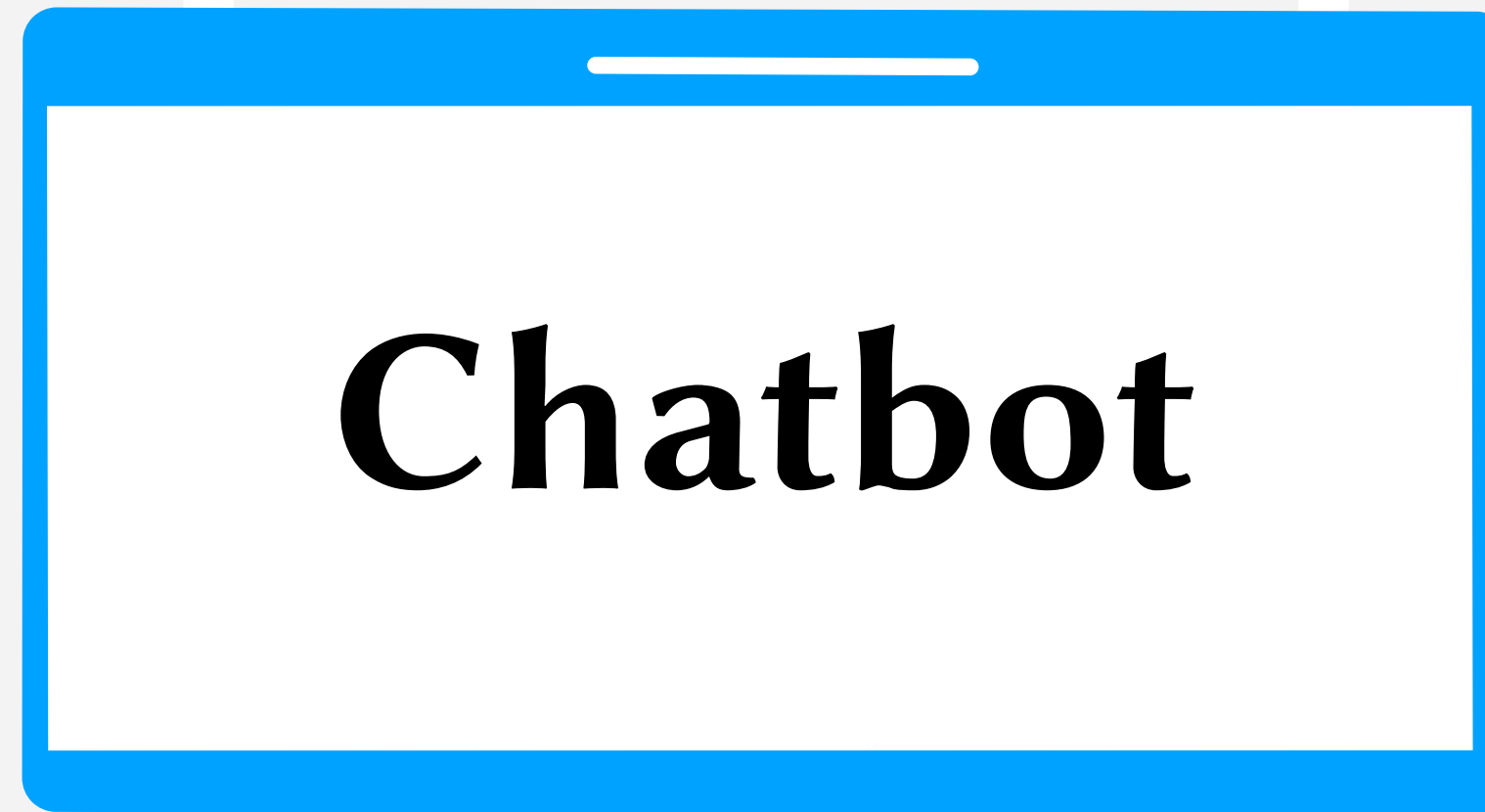
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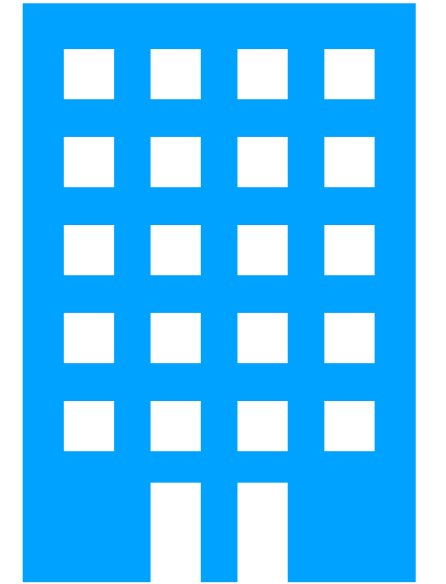
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Servers



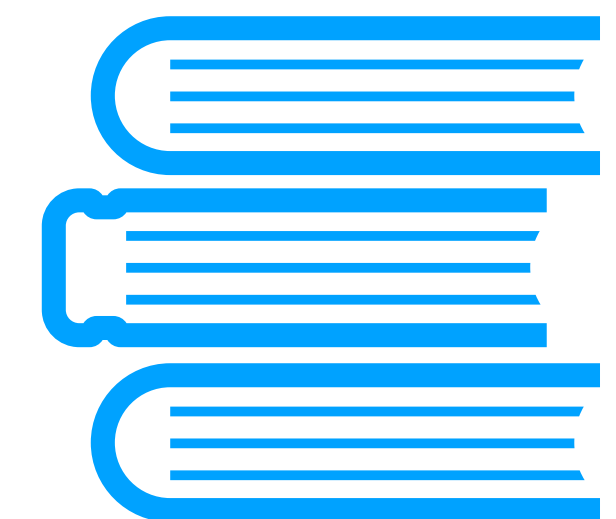
Chatbot



Company



LLM



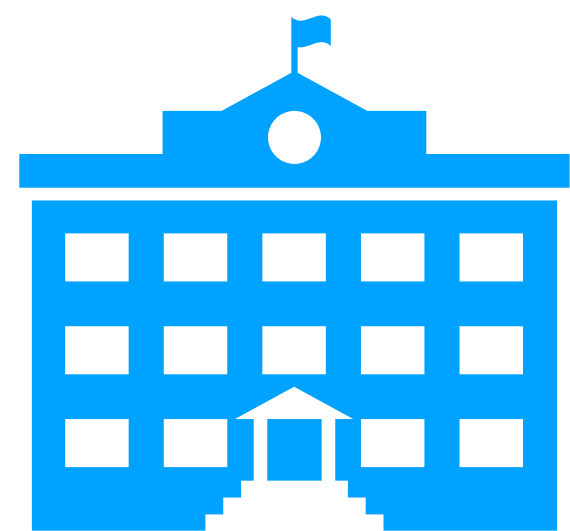
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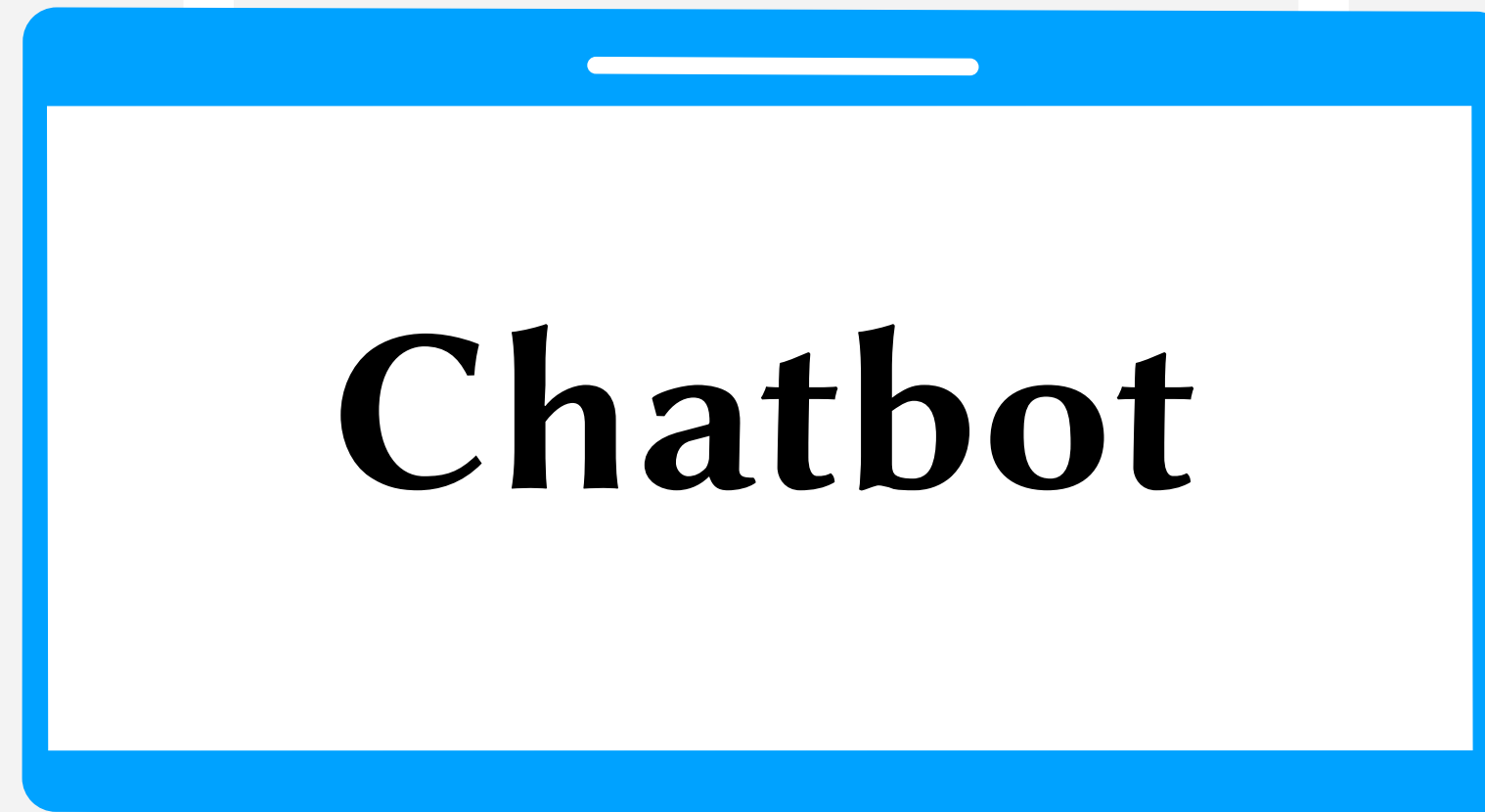
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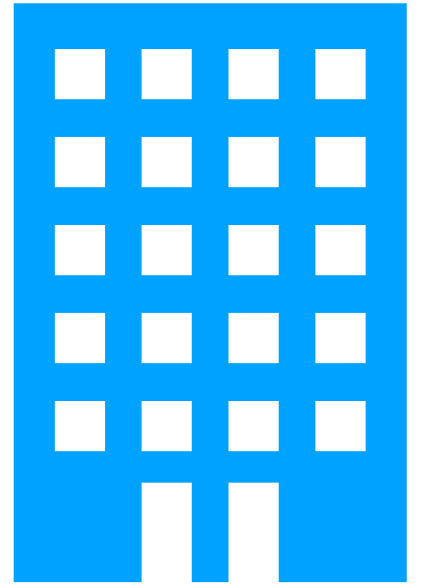
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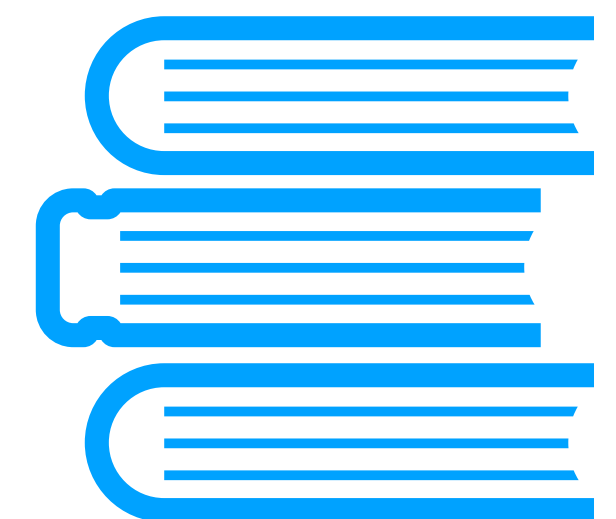
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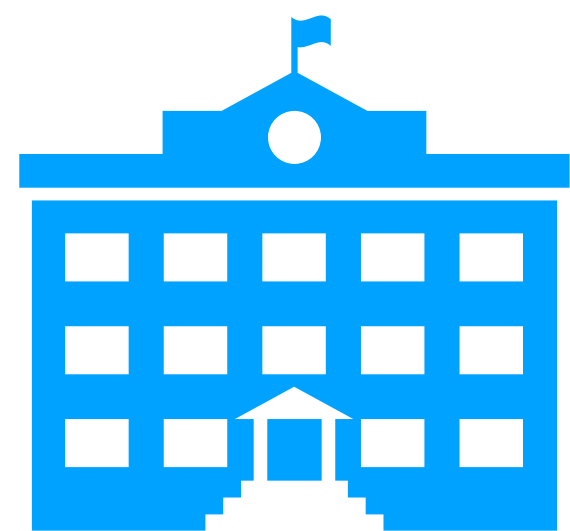
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DEPARTMENT OF MANAGEMENT
AARHUS UNIVERSITY

26. November 2025

Magnus Bender
Assistant Professor

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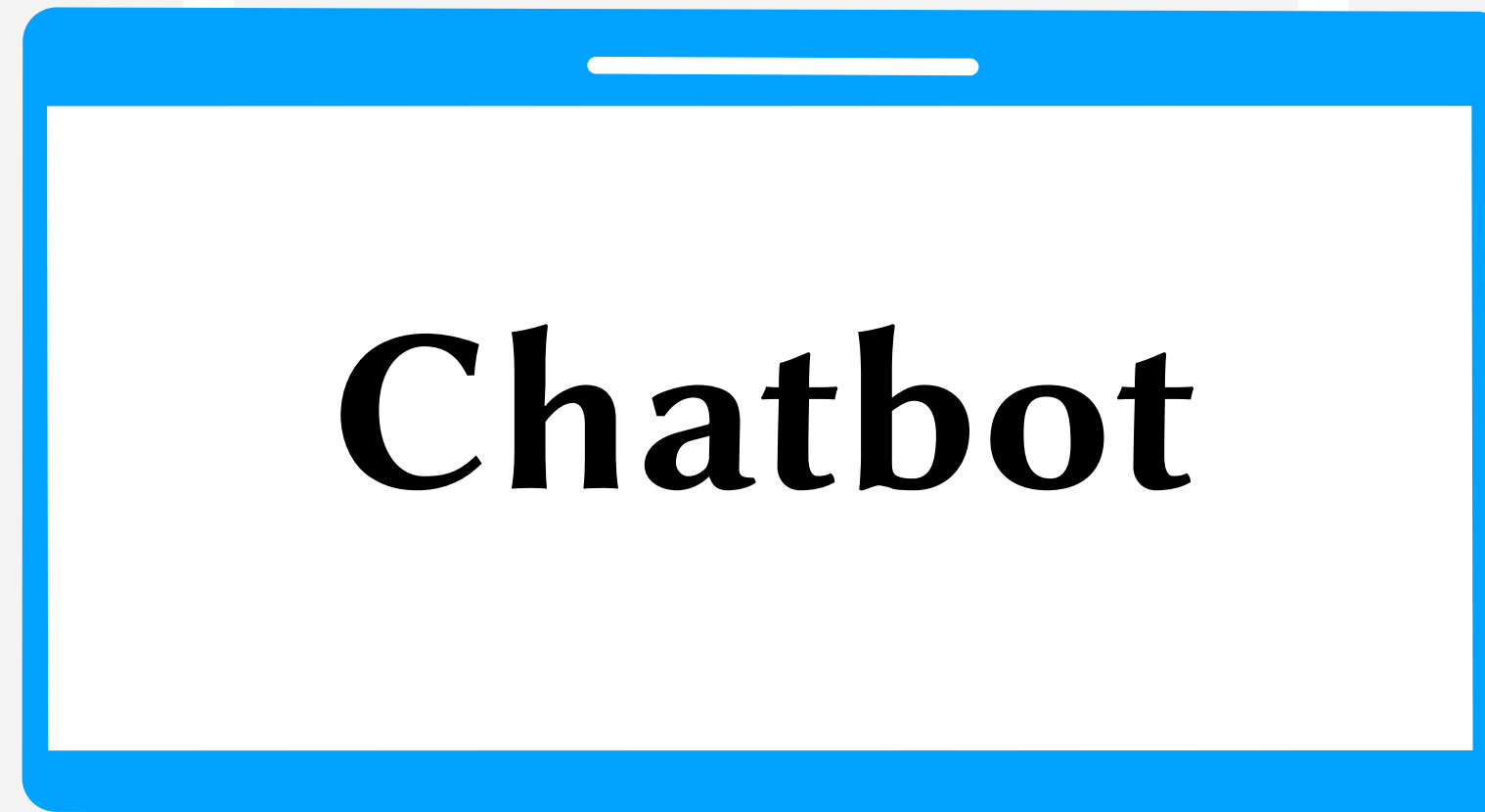




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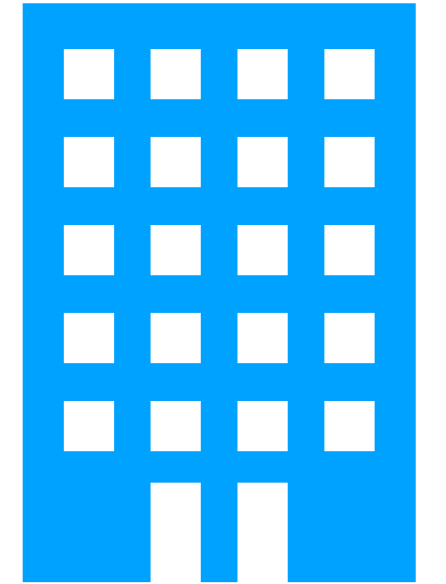


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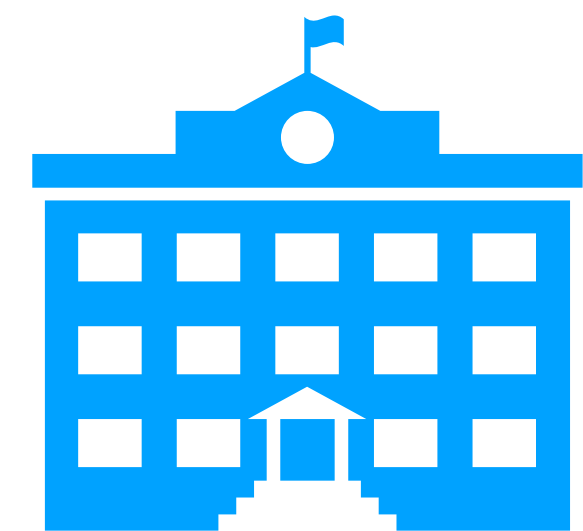
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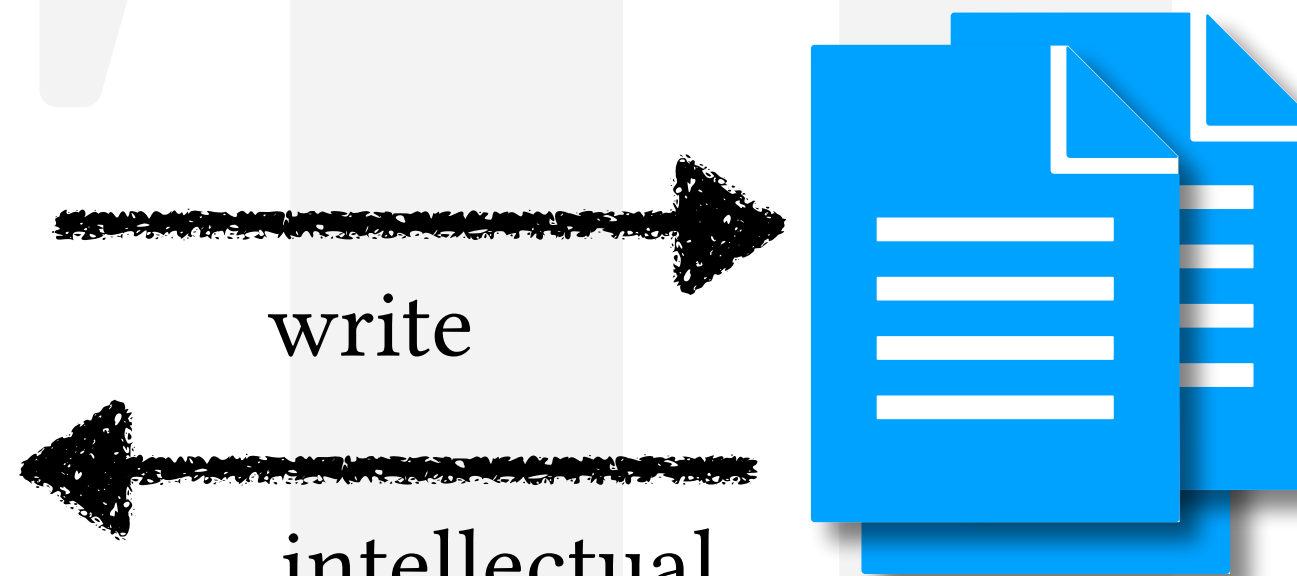
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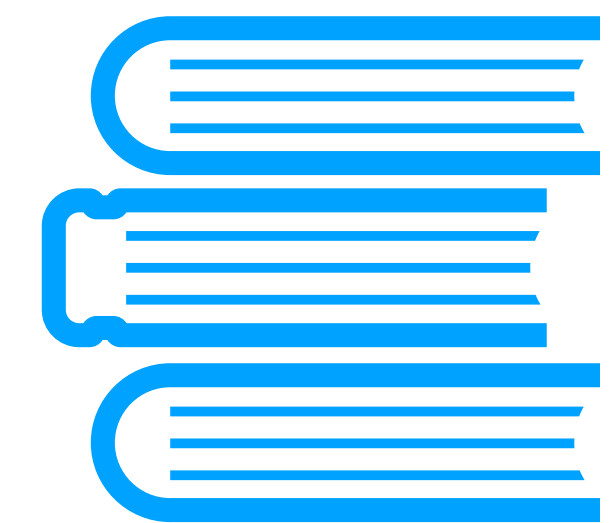


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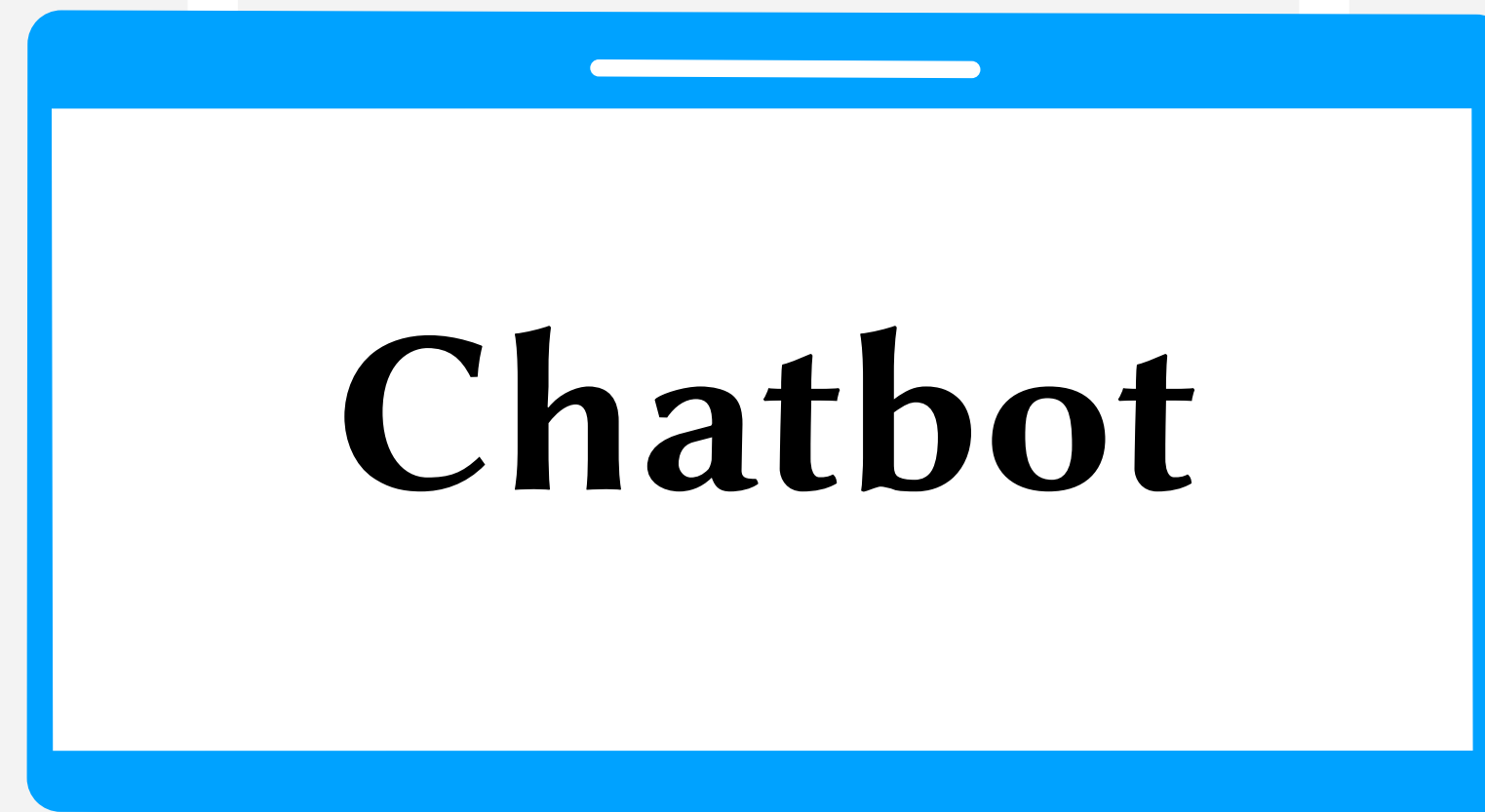
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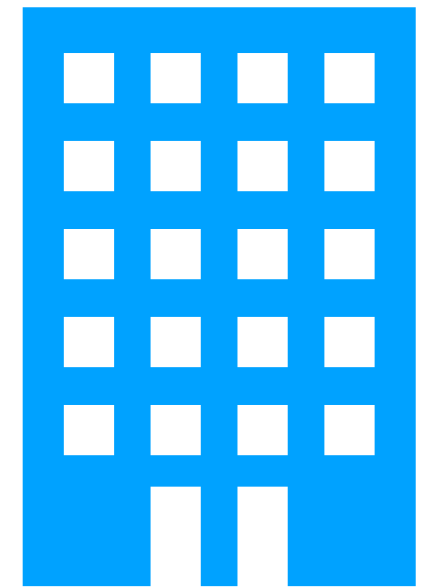
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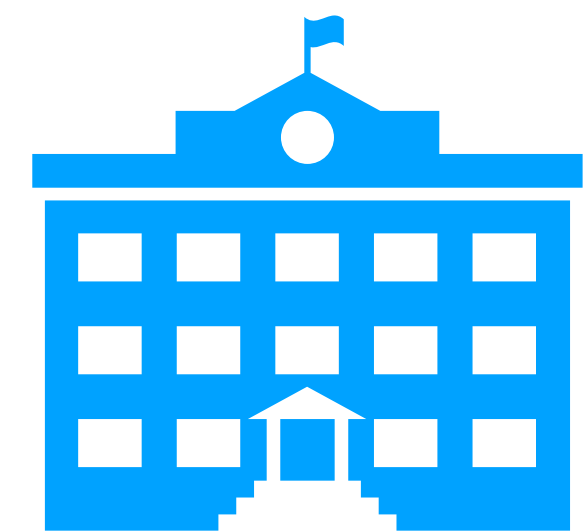
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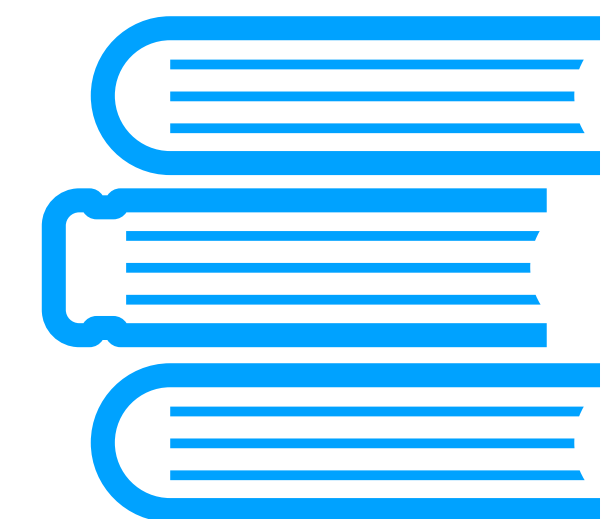
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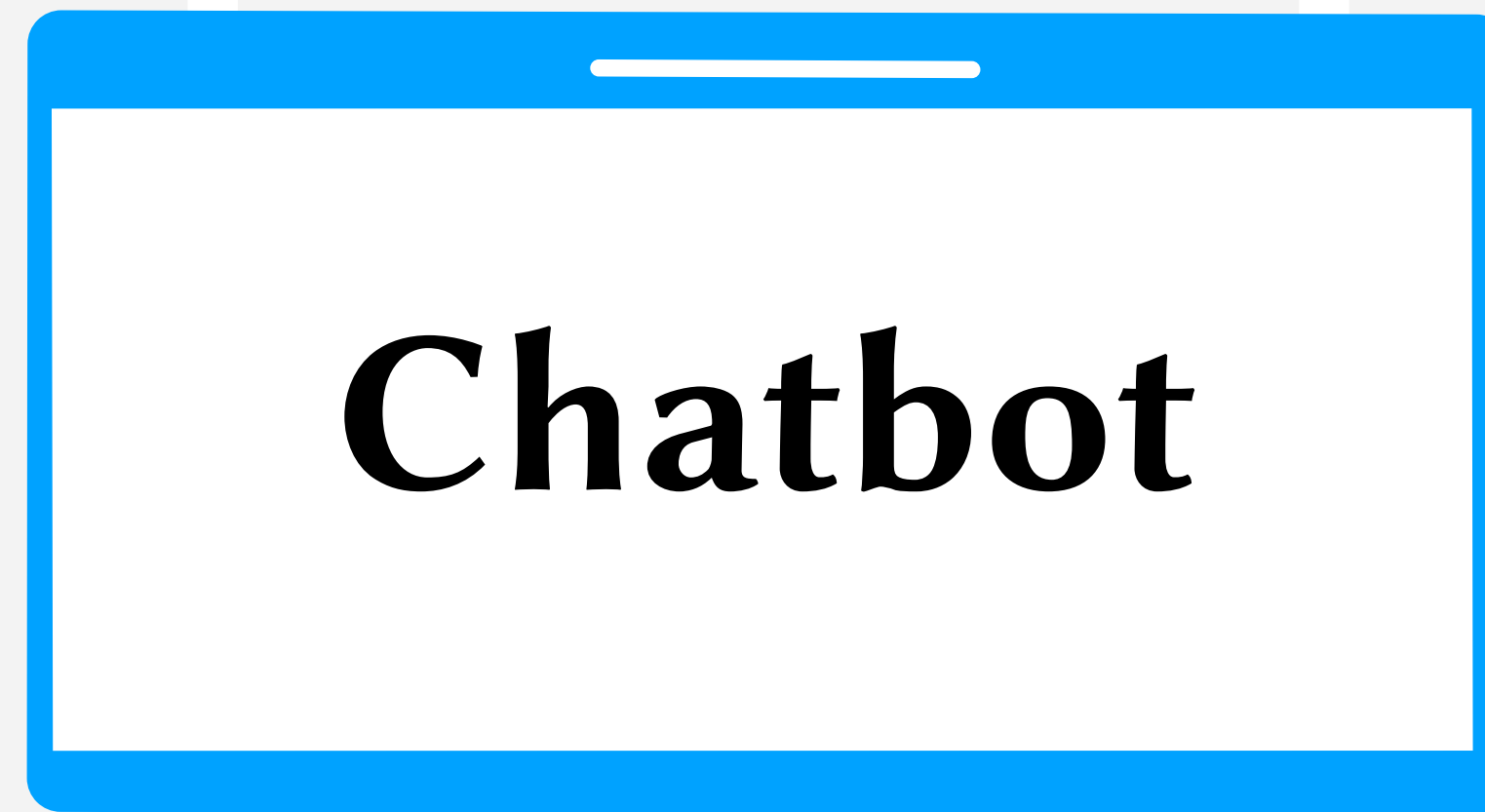
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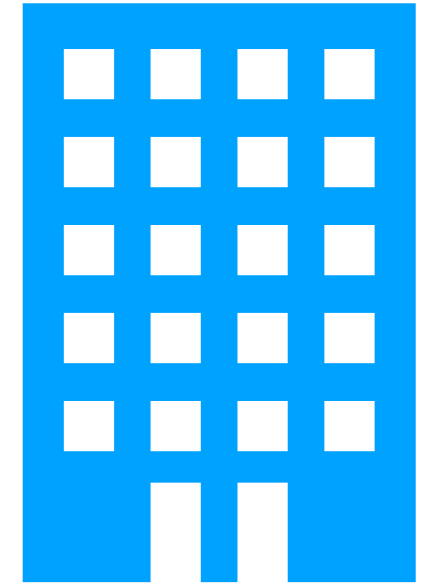
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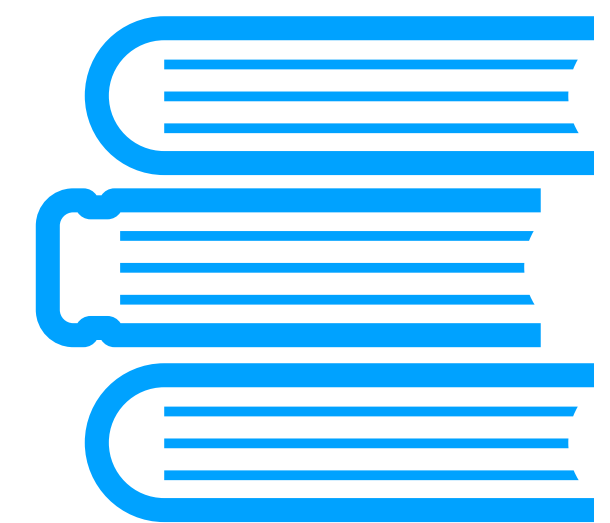
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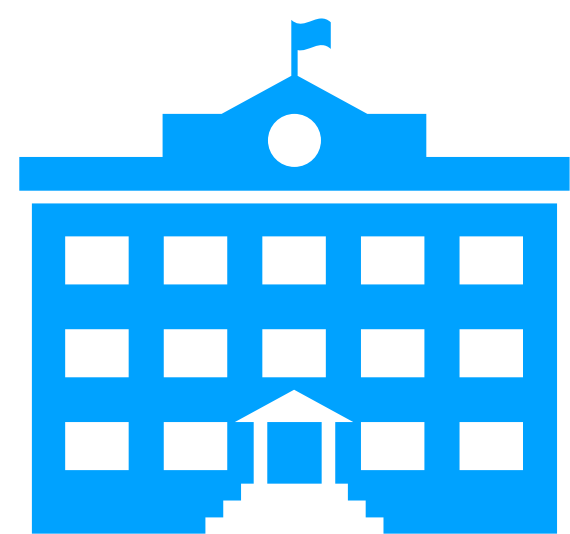
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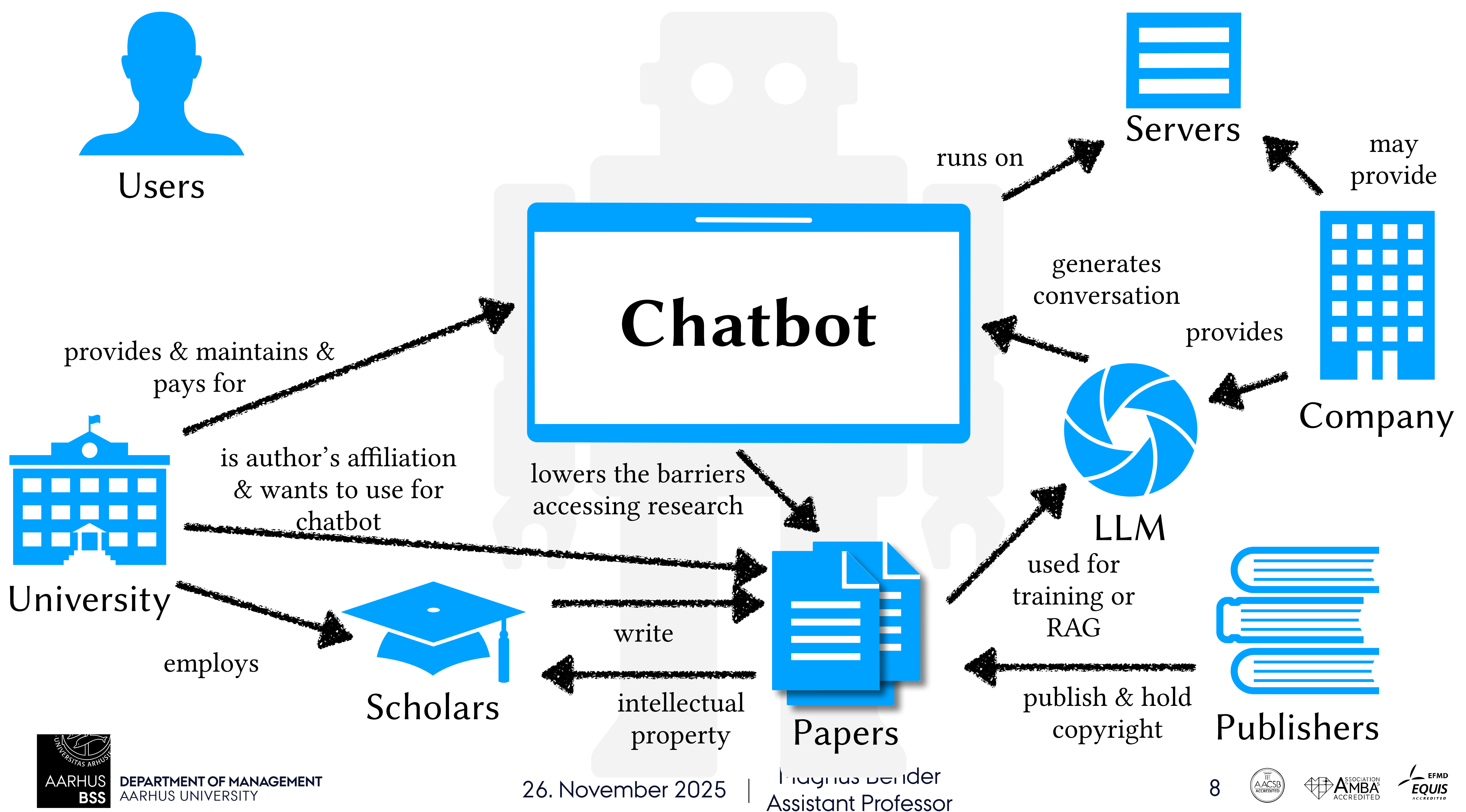
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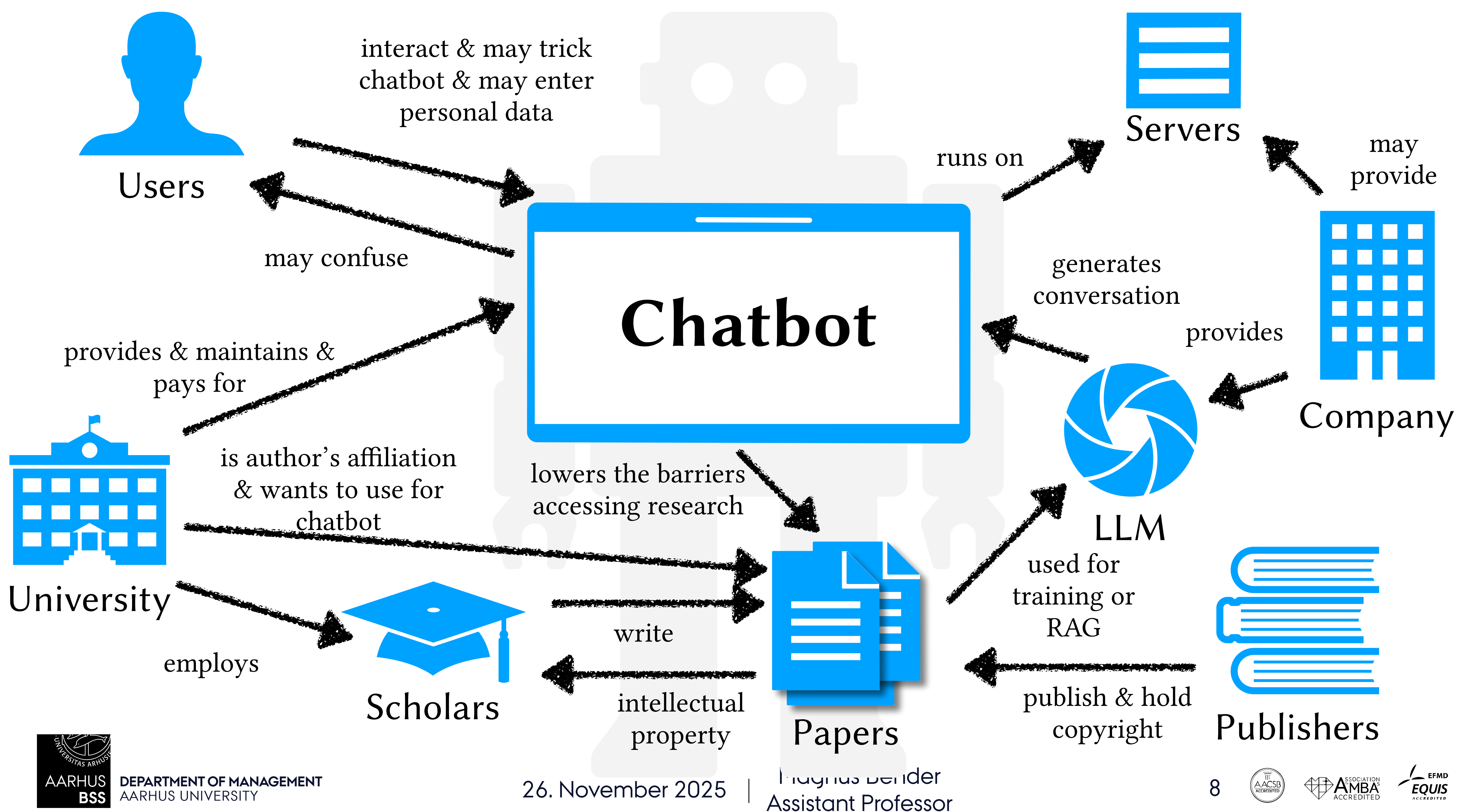
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 - „We have a really huge amount of data, can you help us training a model for *this* task?“

** These are not verbatim quotes, but topics I had many discussions about during my Postdoc.*

LEGAL CONSIDERATIONS

- Introduction
- EU GDPR
- EU AI-Act

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- Consider also more *classical* laws, e.g.,
 - intellectual property
 - model and data licensing
 - national information processing & data regulations

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 - Read the original text → it is the grounding!

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Digital Omnibus: Proposed amendments to provisions in the GDPR

20.11.2025

Yesterday, the European Commission presented its proposal for a new Digital Package. The package includes a so-called Digital Omnibus with proposals for simplifying the rules in several digital legal acts, including the GDPR.



<https://www.datatilsynet.dk/internationalt/internationalt-nyt/2025/nov/digital-omnibus-forslag-til-aendringer-af-bestemmelser-i-gdpr>

GDPR: GENERAL DATA PROTECTION REGULATION

- Introduction to (in my view) relevant GPDR concepts

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- Art. 2 GDPR
 1. This Regulation applies to the **processing of personal data** wholly or partly by **automated means** and to the processing other than by automated means of personal data which form part of a **filing system** or are intended to form part of a filing system.
 2. This Regulation **does not apply** to the processing of personal data:
 - (c) by a natural person in the course of a **purely personal** or household activity;

<https://eur-lex.europa.eu/legal-content/EN-DA-DE/TXT/?from=EN&uri=CELEX%3A02016R0679-20160504>

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- Art. 3 GDPR
 1. This Regulation applies to the processing of personal data in the context of the activities of an establishment of a **controller** or a processor in the **Union**, regardless of whether the processing takes place in the Union or not.

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In Danish:

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(1) „‘personal data’ means **any information** relating to an identified or identifiable **natural person** (‘data subject’); an identifiable natural person is one who can be **identified, directly or indirectly**, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person;“

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- (2) ‘processing’ means any operation or set of **operations** which is performed **on personal data** or on sets of personal data, whether or not by automated means, such as collection, recording, organisation, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction;

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- (5) ‘pseudonymisation’ means the processing of personal data in such a manner that the **personal data can no longer be attributed to a specific data subject without the use of additional information**, provided that such additional information is kept separately and is subject to technical and organisational measures to ensure that the personal data are not attributed to an identified or identifiable natural person;

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GENERAL GDPR PRINCIPLES, ART. 5

1. Personal data shall be:

- (a) processed lawfully, fairly and in a transparent manner in relation to the data subject (**'lawfulness, fairness and transparency'**);
- (b) collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes; further processing for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes shall, in accordance with Article 89(1), not be considered to be incompatible with the initial purposes (**'purpose limitation'**);
- (c) adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed (**'data minimisation'**);
- (d) accurate and, where necessary, kept up to date; every reasonable step must be taken to ensure that personal data that are inaccurate, having regard to the purposes for which they are processed, are erased or rectified without delay (**'accuracy'**);
- (e) kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed; personal data may be stored for longer periods insofar as the personal data will be processed solely for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes in accordance with Article 89(1) subject to implementation of the appropriate technical and organisational measures required by this Regulation in order to safeguard the rights and freedoms of the data subject (**'storage limitation'**);
- (f) processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organisational measures (**'integrity and confidentiality'**).

2. The controller shall be responsible for, and be able to demonstrate compliance with, paragraph 1 (**'accountability'**).

https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02016R0679-20160504#art_5

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 - Process data on local servers → Higher initial investment, not always possible

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- ➡ A controller has to set up processes for fulfilling these rights

CONSEQUENCES ON DATA PROCESSING

In Danish:

‚data protection impact assessment‘ →

‚Konsekvensanalyse vedrørende databeskyttelse‘,

‚data protection officer‘ → ‚databeskyttelsesrådgiver‘

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 - Right to data portability (Art. 20)
- ➡ A controller has to set up processes for fulfilling these rights
- ➡ There are more obligations (Art. 24 onwards), e.g., ‚data protection impact assessment‘, ‚data protection officer‘

https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02016R0679-20160504#art_12

AI-ACT: ARTIFICIAL INTELLIGENCE ACT

- General structure
- Risk levels
- Important regulations

GENERAL STRUCTURE

- Purpose
 - „The purpose of this Regulation is to improve the functioning of the internal market and promote the uptake of **human-centric and trustworthy artificial intelligence (AI)**, while ensuring a high level of **protection of health, safety, fundamental rights** enshrined in the Charter, including democracy, the rule of law and environmental protection, against the harmful effects of **AI systems in the Union** and **supporting innovation.**“ (Art. 1 | AI-Act)

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 - Side note: AI-Act does not apply to AI systems exclusively for military, defense, or national security purposes (Art. 2 III)

RISK LEVELS

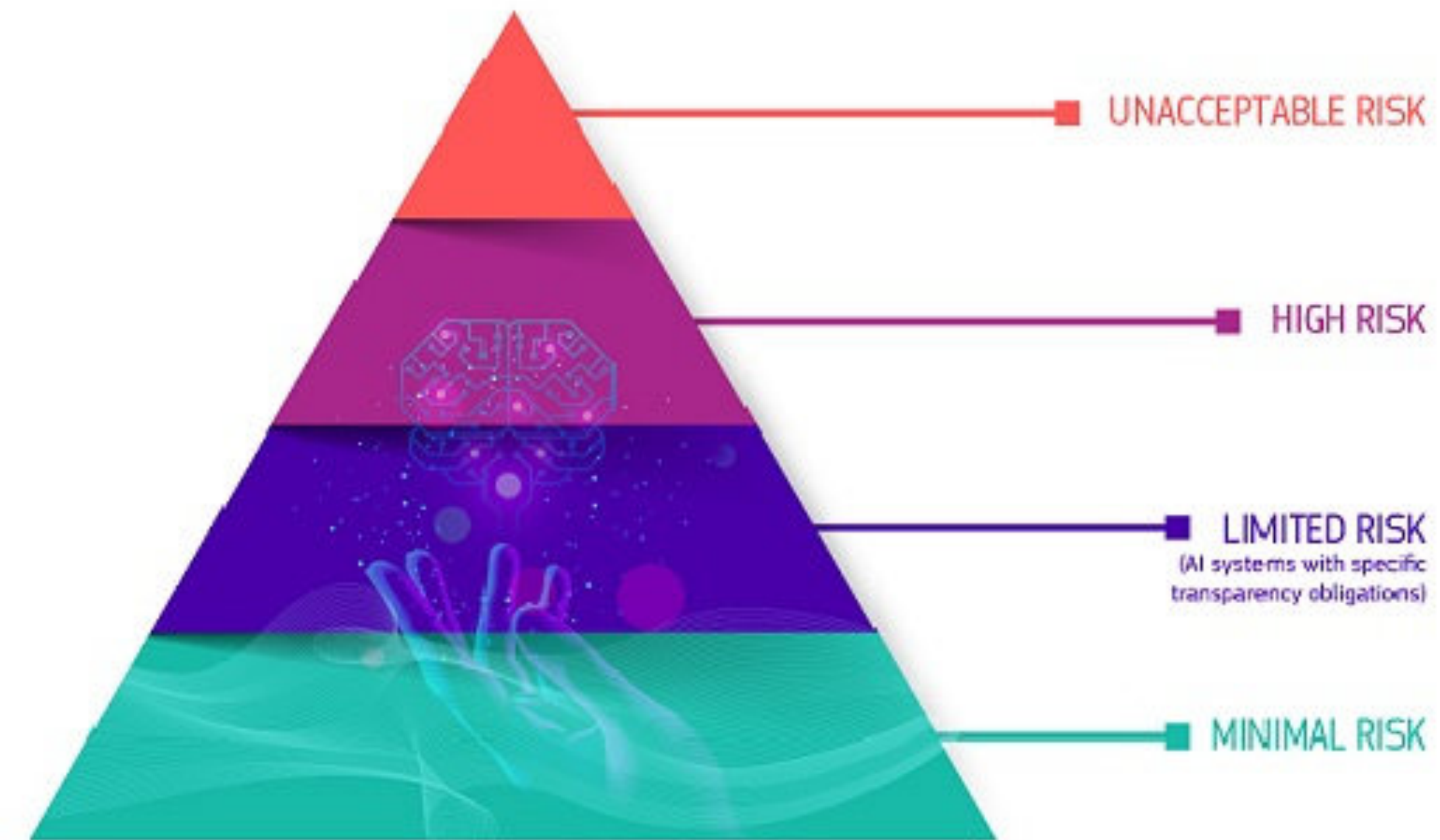


Figure: <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai>

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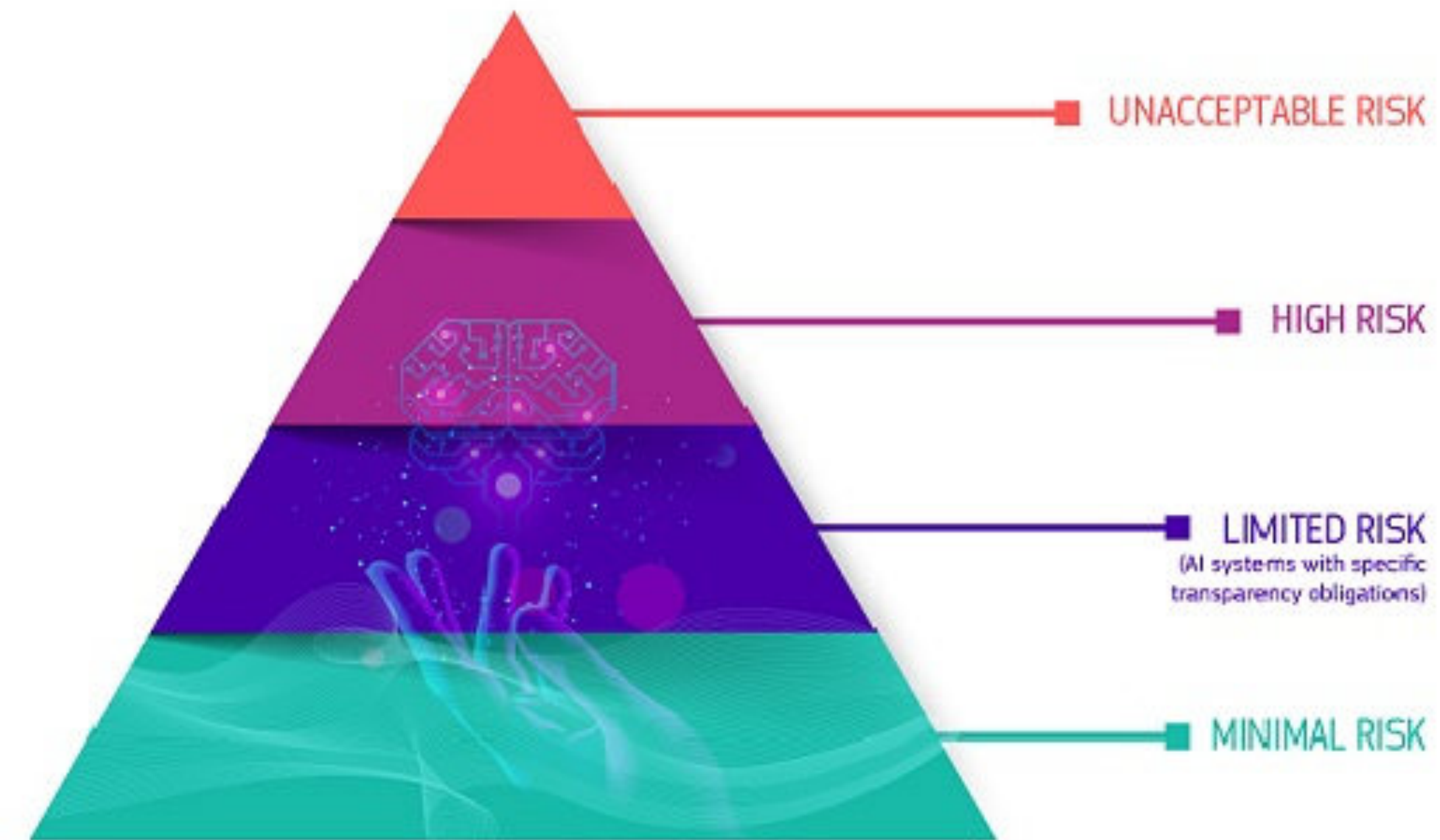


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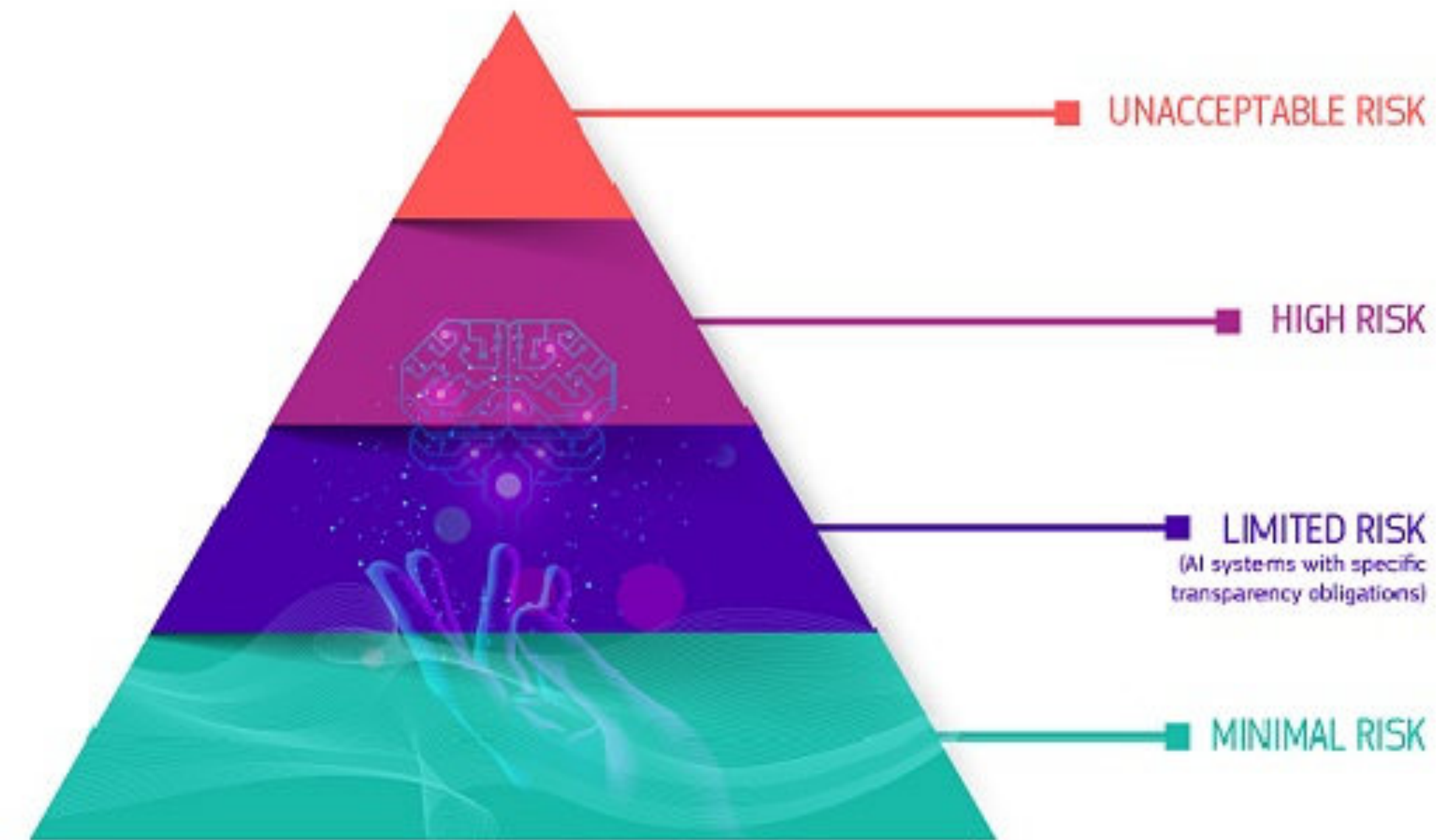


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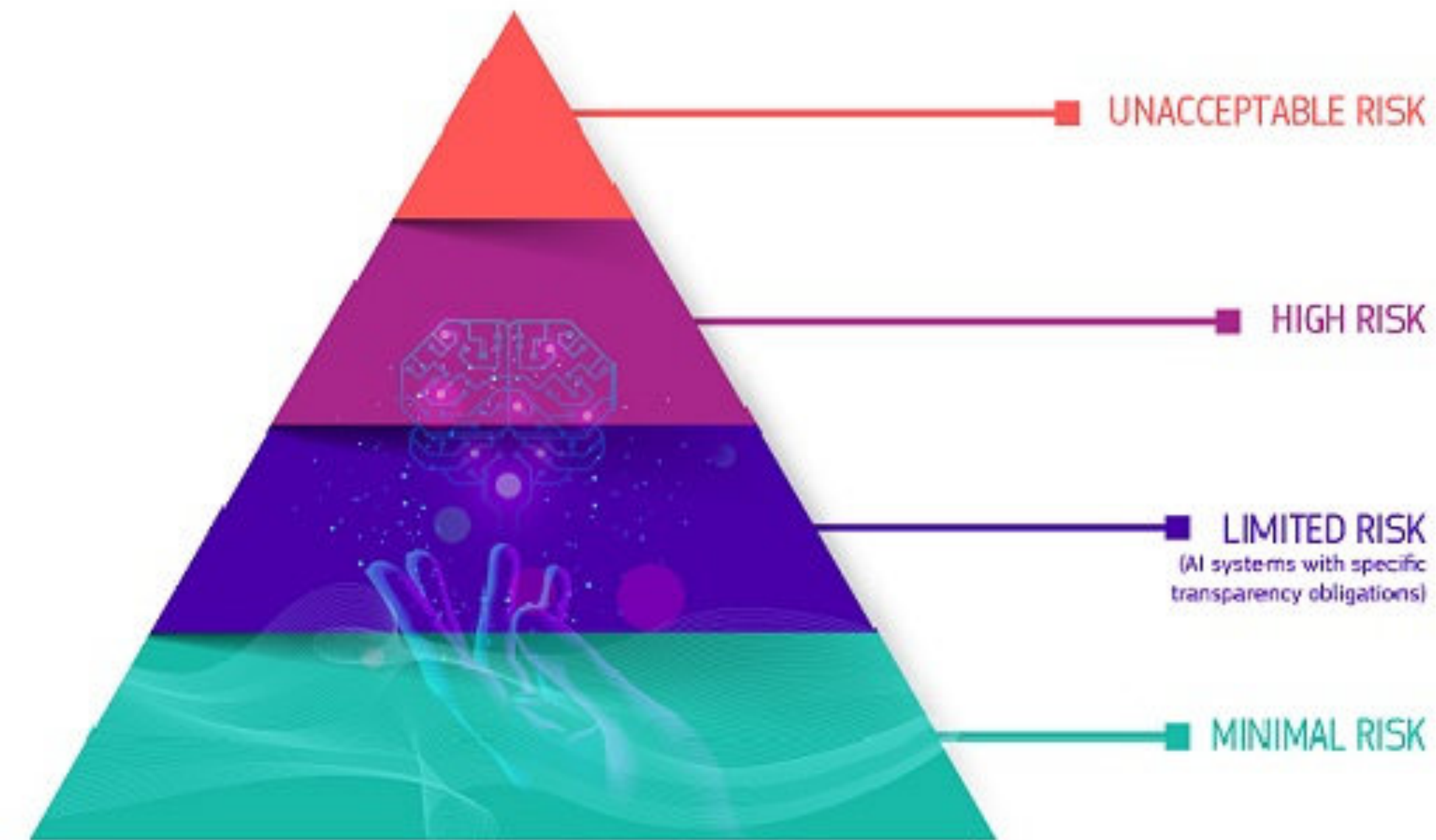


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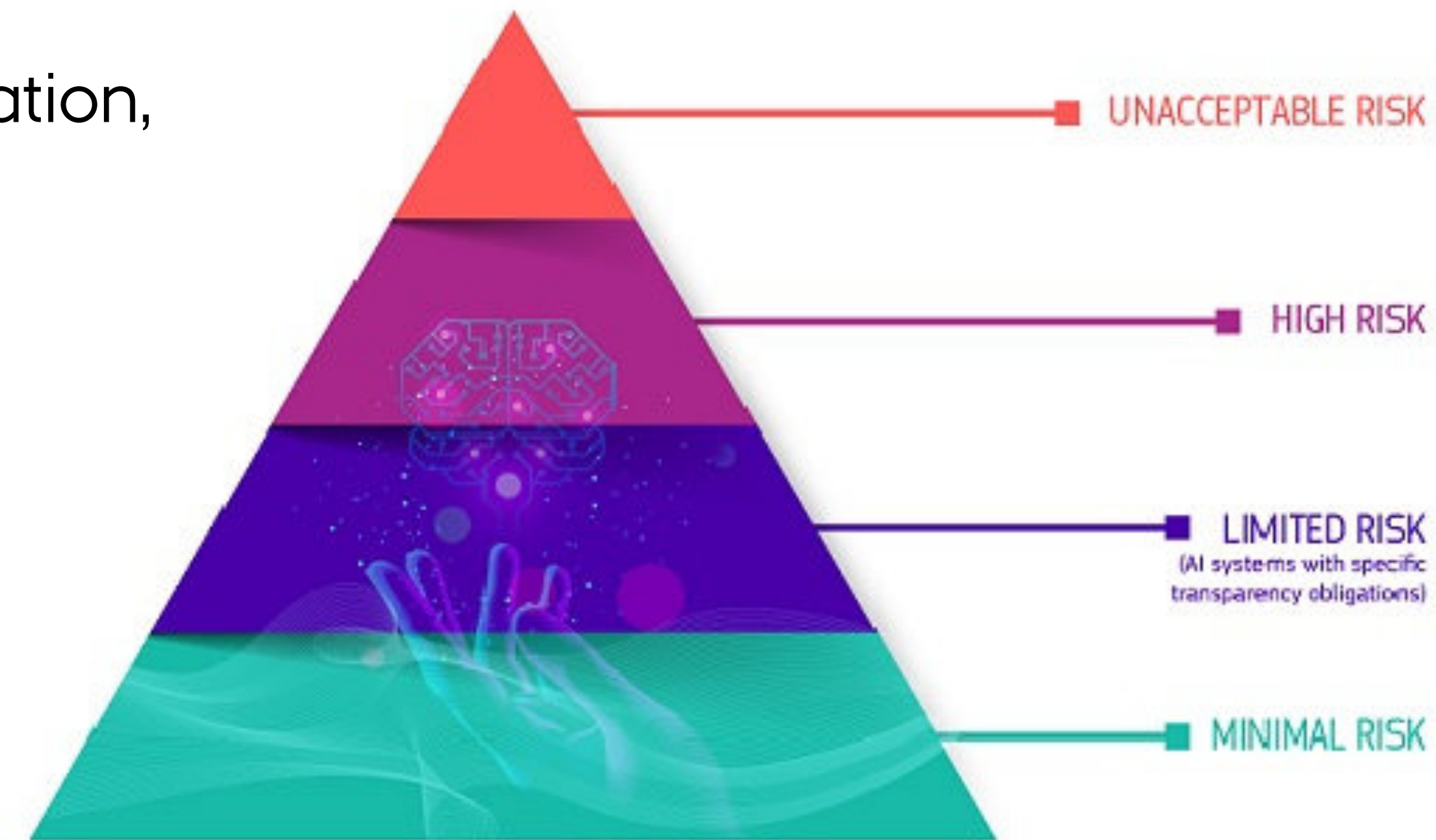


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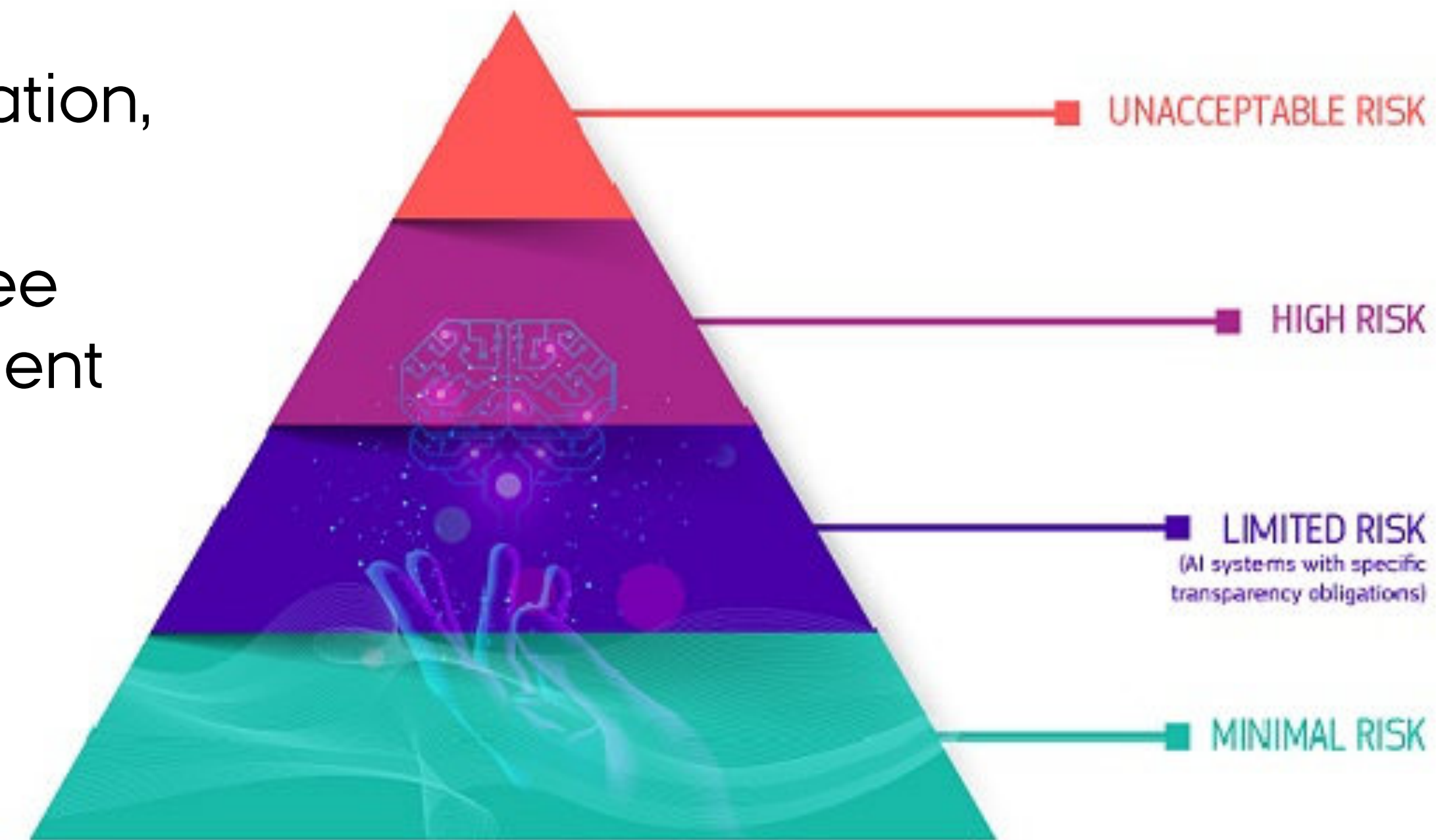


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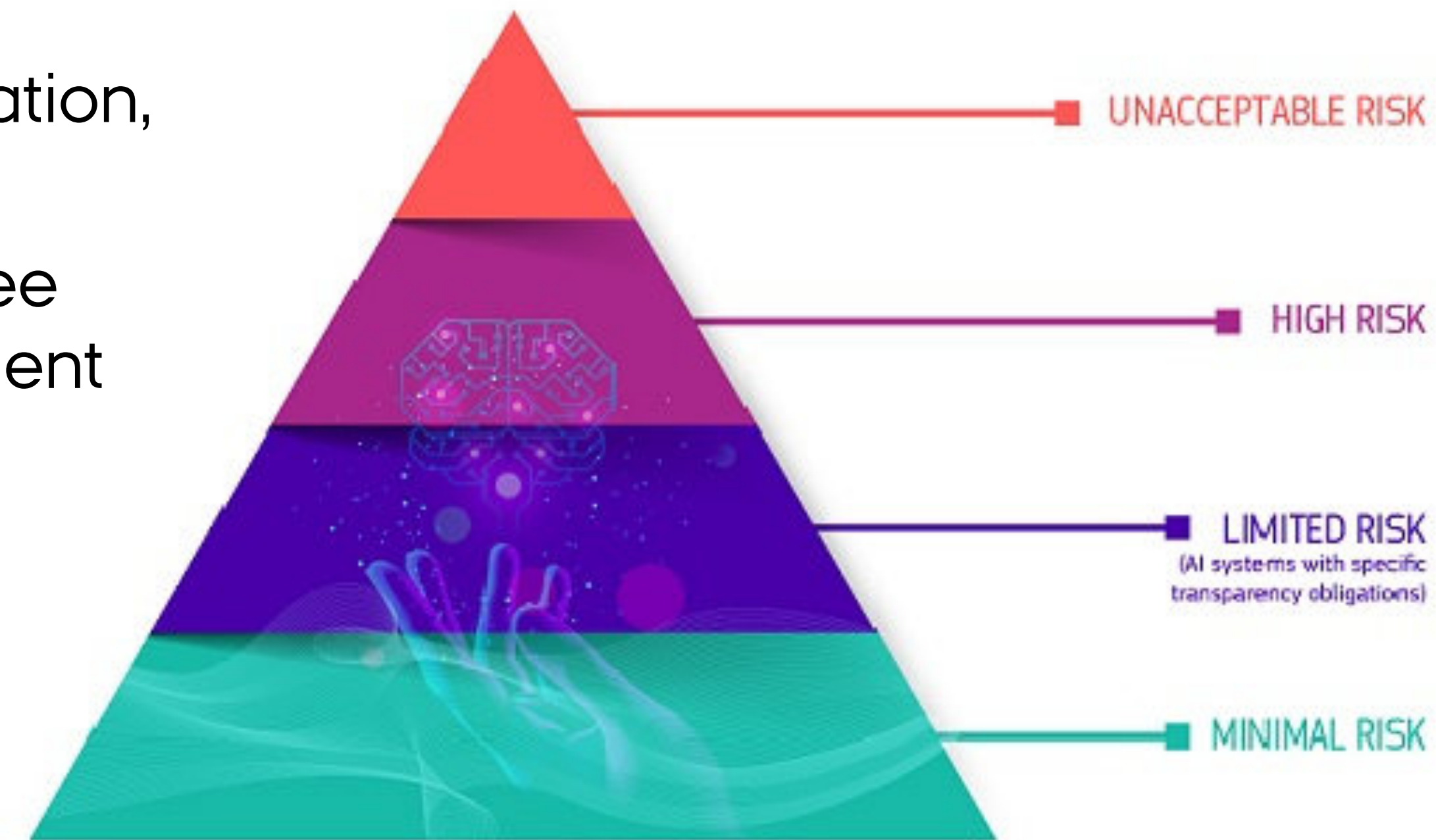


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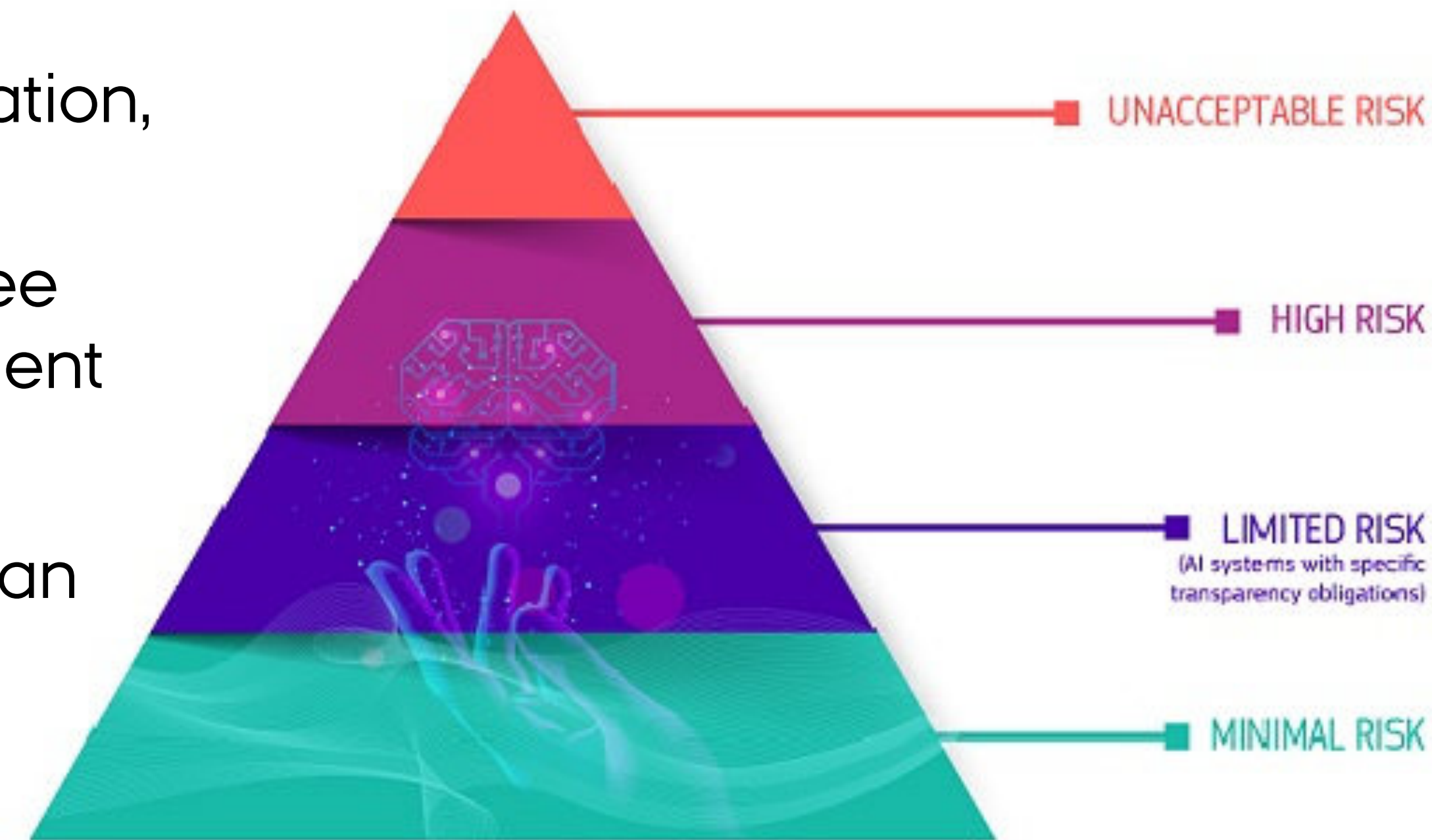


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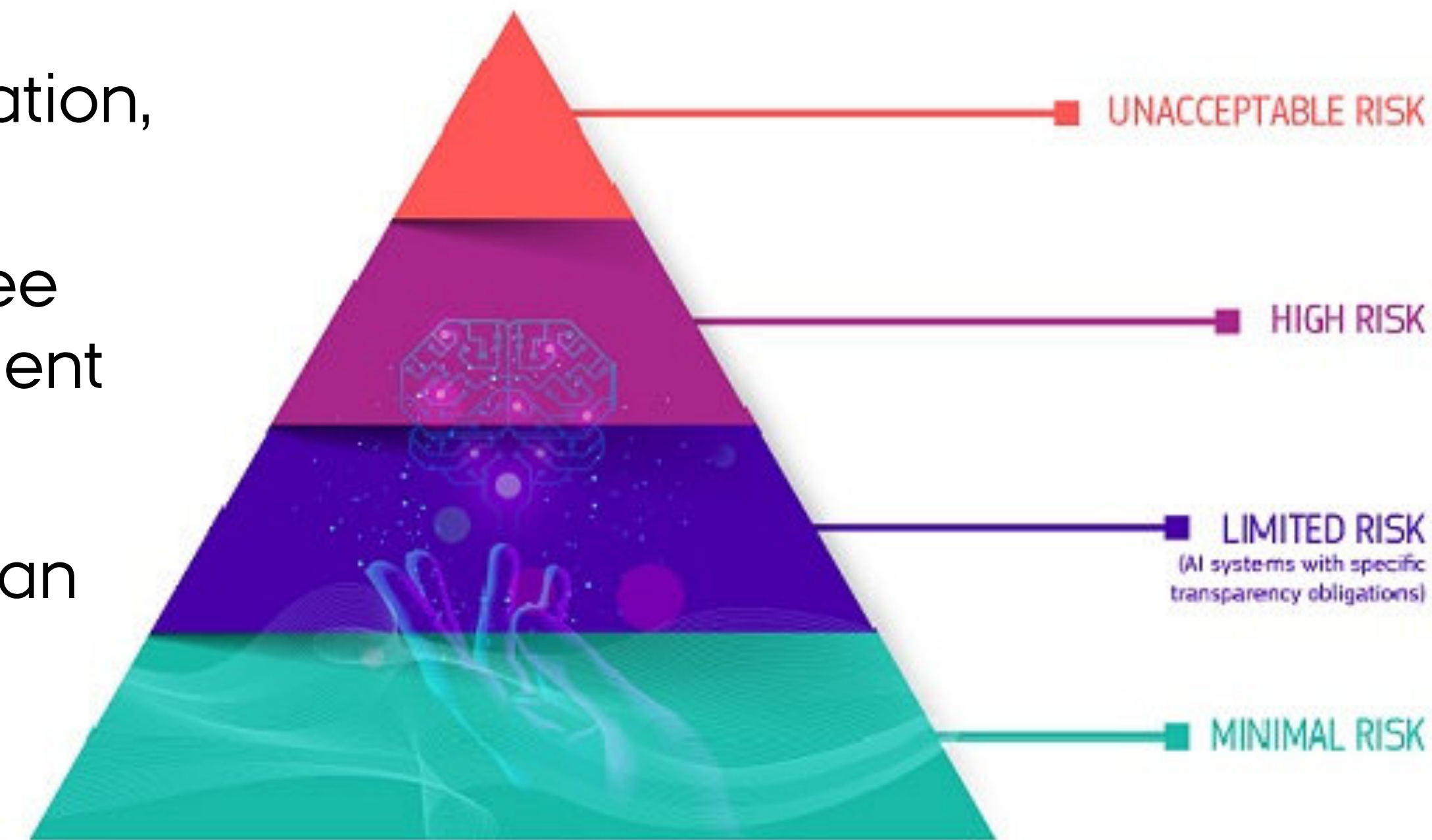


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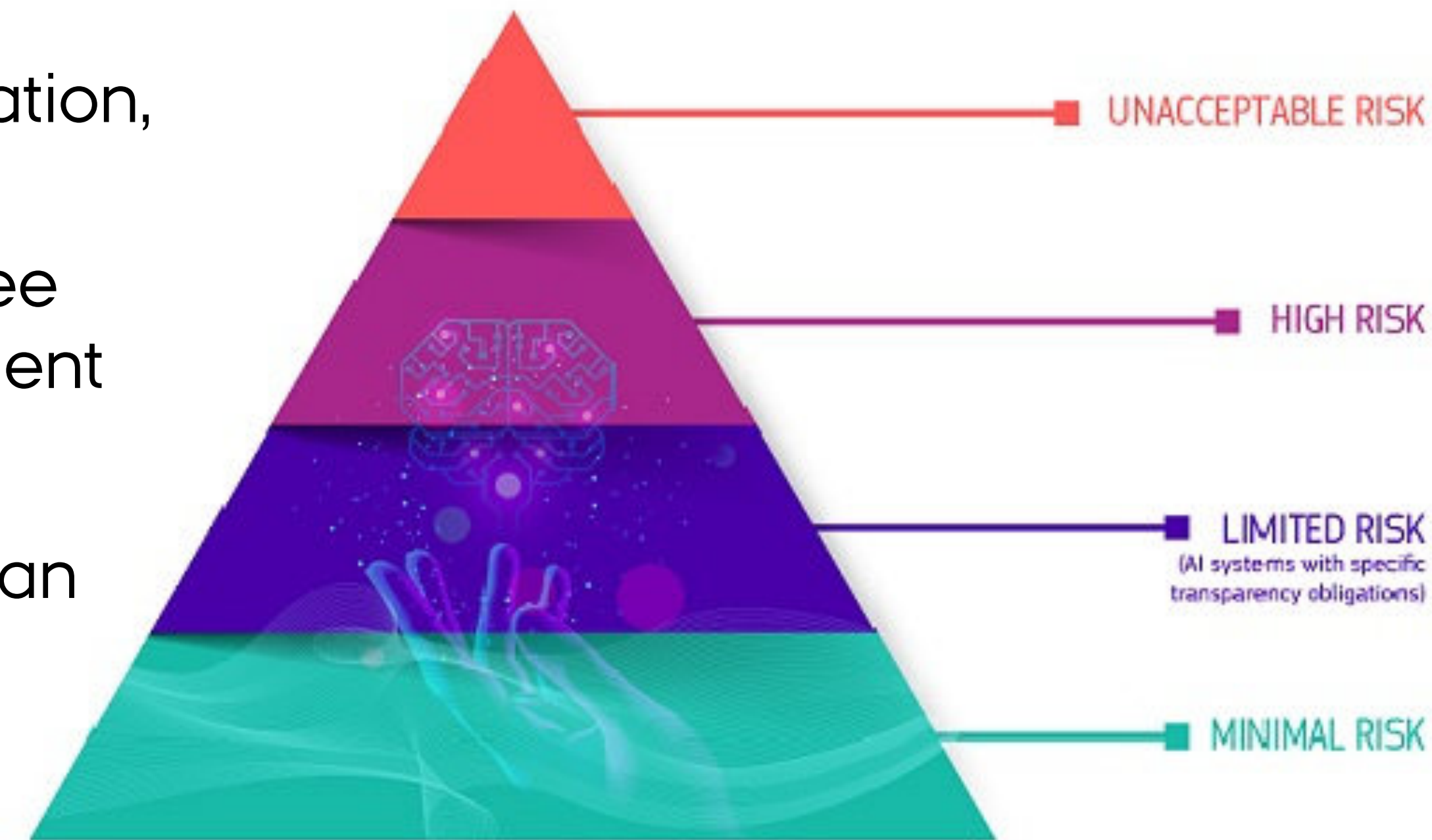


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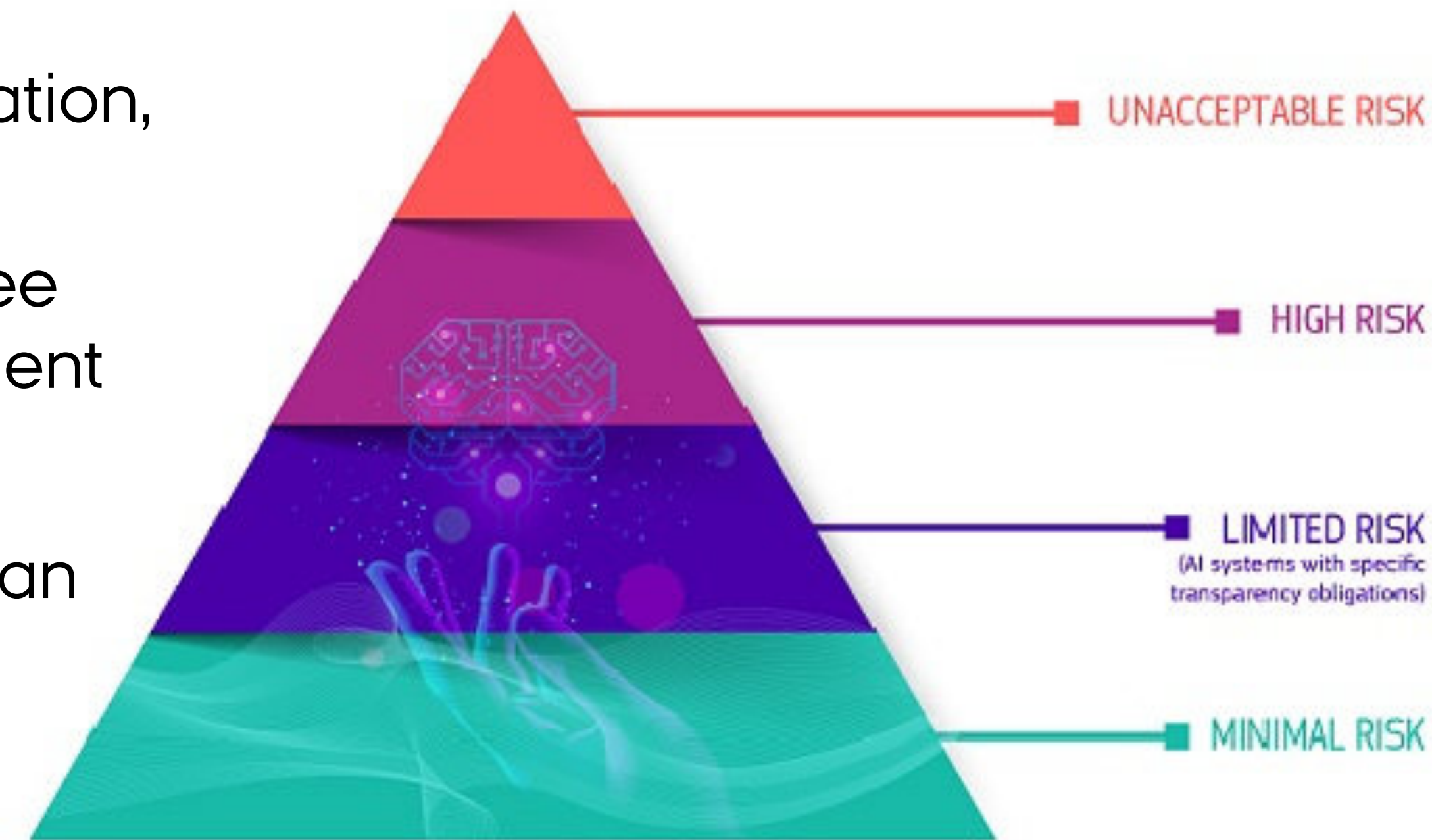


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- (63) ‘general-purpose AI model’ means an **AI model**, including where such an AI model is trained with a large amount of data using self-supervision at scale, that displays **significant generality** and is capable of competently performing a **wide range of distinct tasks** regardless of the way the model is placed on the market and that can be **integrated into a variety of downstream systems** or applications, except AI models that are used for research, development or prototyping activities before they are placed on the market;

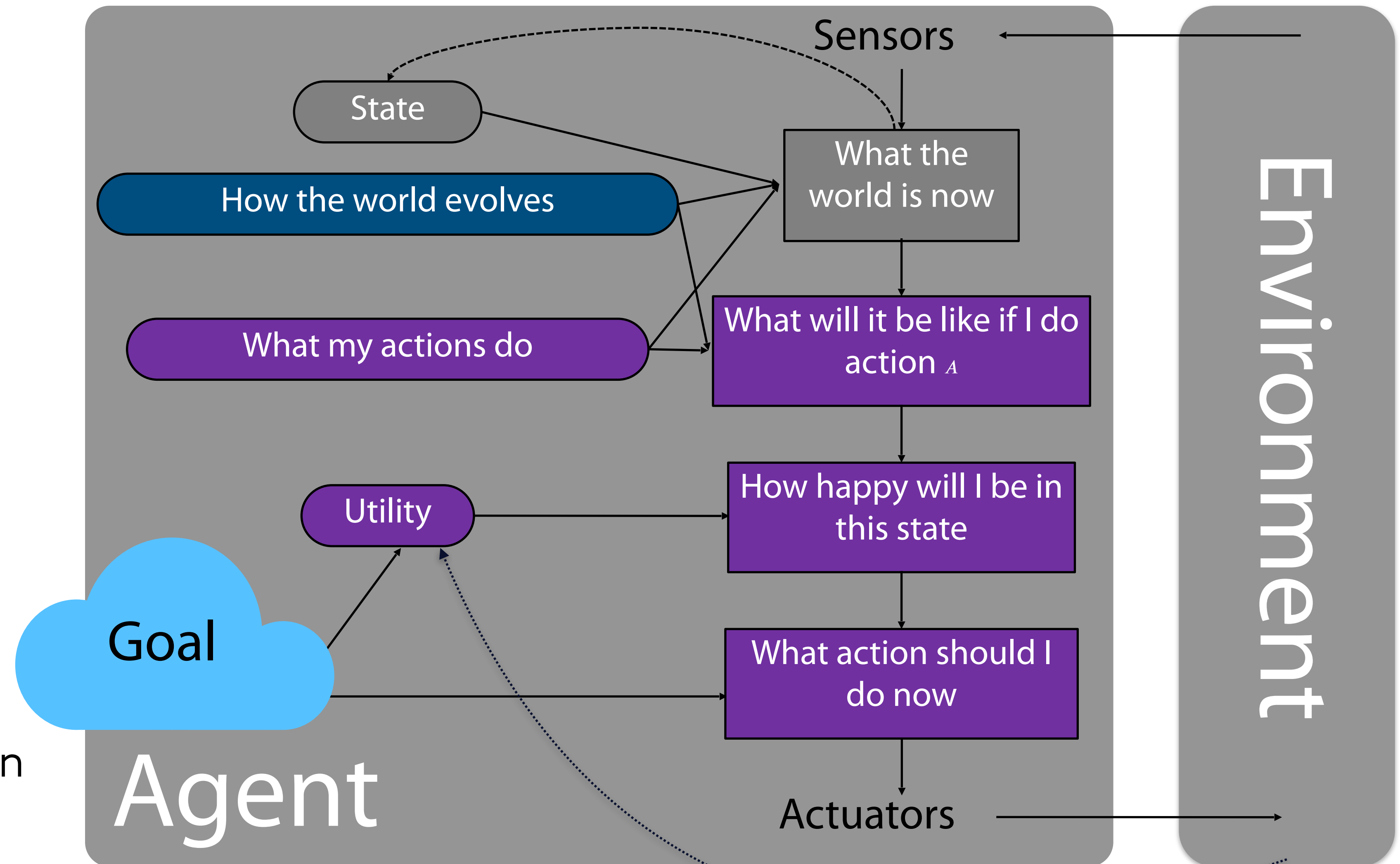
<https://eur-lex.europa.eu/legal-content/EN-DA-DE/TXT/?from=EN&uri=CELEX%3A32024R1689>

https://eur-lex.europa.eu/eli/reg/2024/1689/oj/eng#art_3

AI AGENT & AI SYSTEM

- Intelligent systems, but not necessarily *intelligent* in a human sense
- Agents
 - ... have goals
 - ... have a perception of their environment (sensors)
 - ... can change their environment (actuators)
 - ... plan their actions
 - ... update their goals → learn during runtime

FROM LECTURE 2 & 9



AI LITERACY, ART. 4 AI-ACT

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- So not only about AI systems and AI models, but also about the qualifications of the persons *supervising* the systems.

GDPR & AI-ACT

- Personal data in AI-systems and AI-models

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GPDR & AI-ACT: YOUR PROJECT

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 - Talk to them and assure legal and technical compliance!

SUMMARIZE

- Hand in your project
- Take home messages from today.
- Second summary of the course.

TEACHING EVALUATION

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- Opens: Friday, 28.11.2025
- Closes: Wednesday, 03.12.2025

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- Hand in your project and report via WISEflow
 - Report as PDF (DOCX) file
 - Project as ZIP file (use the export GUI in uCloud! → next slide)
 - Anonymized submission: Upload two files together to WISEflow, with each having no personal details (names, OpenAI keys, ...)

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 - A Python or Jupyter file (.py or .ipynb) that contains your validation code
 - For .py files, we should be able to click “Play” and see your validation outputs
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 - app.py or main.py
 - The app should run when you click the „Play“ button
 - If your app depends on data (e.g., for RAG) put it in this folder, too
- /validation
 - A Python or Jupyter file (.py or .ipynb) that contains your validation code
 - For .py files, we should be able to click “Play” and see your validation outputs
 - For Jupyter files we should be able to “Run all” and see your validation outputs
- /data_generation (*If you are using generated data*)
 - Same as validation but for data-generation code

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- Use it also for backups, i.e., create every now and then a ZIP archive, so you may roll back and restore files

LIVE DEMO

Project export app on uCloud:
GenAI/
wiseflow_project_export.py

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Project Export

Archive Generation

RESET

1. Base Path: Please select or type the base path where your project is located.

Project Base Path

/Magnus_Example_Project

2. Three Parts: Please indicate the three paths for *data creation* (optional), the *NiceGUI app*, and *validation*.

Data creation (optional)

/data_generation

NiceGUI app

/final_project

Validation

/validation

PROCEED

3. Files to include: Check for each of the three paths (*data creation*, the *NiceGUI app*, and *validation*) which files to include or exclude.

Include as *Data creation* in /data_generation

☒ /generate.ipynb

☒ /data.csv

☒ /results.csv

Include as *NiceGUI app* in /final_project

☒ /app.py

☒ /example-input.csv

Select main file (to run GUI/ start validation)

/app.py

Include as *Validation* in /validation

☒ /results-app.csv

☒ /output_compare.txt

☒ /results-groundtruth.csv

☒ /compare.py

26. November 2025

Assistant Professor

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- Information about end of the course and handing in your app.



DEPARTMENT OF MANAGEMENT
AARHUS UNIVERSITY