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universität  
**uulm**



# Transforming Higher Education

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Applications of ChatGPT in Teaching, Research and Administration

# Introduction



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ChatGPT **revolutionizes higher education** through personalized learning, research support, and administrative efficiency, redefining the academic experience.

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ChatGPT (2023)



# Large Language Models



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- **Large Language Model**  
Machine Learning algorithms process textual inputs, Generative Artificial Intelligence algorithms generate novel textual output.
  - **Generative Artificial Intelligence**  
Algorithms produce novel outputs, such as images, music, or texts, instead of processing existing data.
  - **Conversational Agent**  
Users can ask questions, express commands and receive corresponding responses in a dialogue-like style from the free, text-based chatbot.
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ChatGPT is a [...] language model developed by OpenAI. It is designed to **comprehend and produce human-like text**, utilizing the input it receives.

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ChatGPT (2023)

# Application Areas

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[...] ChatGPT finds applications in **teaching, research, and administration** by assisting with various tasks such as facilitating interactive learning, supporting research endeavors, and streamlining administrative processes.

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- **Teaching**  
Educators might use ChatGPT as a tool to assist in their work and to explore novel teaching methods and didactic concepts.
  - **Research**  
ChatGPT may assist researchers at various stages during the research process and with indirect research tasks, such as drafting research proposals or producing reports.
  - **Administration**  
Using ChatGPT can reduce the time devoted to organizational tasks by automatically performing routine activities, allowing the focus to shift to solving complex issues.
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# P PROMT ENGINEERING

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# Practical Applications



## Teaching

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### > Prompt A

Please create a template for my lecture “Digital Platforms”.

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### > Prompt B

Please create a template for my next lecture “Digital Platforms” on the topic "network effects on digital platforms" for master students in Management and Economics with several interactive parts and diverse didactic methods which should last for 180 minutes with a 30 min lunch break in between.

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# Practical Applications



## Research

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### > Prompt A

Please provide ideas on “Sustainability Management Accounting”.

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### > Prompt B

Please provide 5 ideas on the research topic “Sustainability Management Accounting” with a focus on social sustainability and employee empowerment. For each idea, please recommend 3 authors that have published relevant papers on this theme.

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# Practical Applications



## Administration

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### > Prompt A

Please create a template for a manual on ChatGPT.

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### > Prompt B

Please create a template for a manual on the topic “Application and usage of ChatGPT in Higher Education – Rights and Obligations” for employees in Higher Education that serves as a guideline for their teaching, research and administrative tasks.

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The challenges in implementing ChatGPT in Higher Education include ensuring **data privacy**, maintaining content quality, and addressing **potential biases** in the AI model's responses.

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- **Acceptance and Academic Integrity**  
Employees might accept the generated output without validating its accuracy, despite ChatGPT might also generate false, misleading, or distorted information. Others might perceive technological advancements negatively and refuse to use ChatGPT.
  - **Privacy and Biases**  
Sensitive data should not be shared with ChatGPT because it collects user data. ChatGPT might also reinforce discrimination due to biased datasets and exaggerate inequalities.
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# Conclusion

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## > **Changing Environment**

ChatGPT represents a profound change in society and particularly within Higher Education.

## > **Employee Training**

Training staff on the proper application of ChatGPT is essential, enabling the development of data literacy and guidance on generating useful outputs.

## > **Policies and Guidelines**

The implementation of policies and guidelines on the appropriate application of Large Language Models is a crucial step toward a future of transforming Higher Education.

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ChatGPT's transformative impact on Higher Education could streamline tasks, requiring **academic staff to adapt roles**, balancing tech integration and expertise.

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# Resources



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In conclusion, while ChatGPT offers promising applications in Higher Education, it is crucial to **navigate these challenges** thoughtfully to **maximize its benefits** for students, educators, and administrators.

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### > **Questions and Comments**

Do you have any further questions or comments?

### > **Contact Information**

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