

Real-Time Interactive AI Avatar

AI-driven avatars are becoming increasingly important in virtual assistants, digital humans, and interactive applications. While many systems rely on complex multimodal perception pipelines, a key challenge remains the creation of responsive and natural real-time interaction even when user input is restricted to text. Focusing on text-based interaction allows the study of reasoning, dialogue management, and real-time speech generation without the added complexity of perception modules.

This thesis explores the design and implementation of a real-time interactive AI avatar that receives text input, reasons using autonomous AI agents, and produces spoken responses through text-to-speech synthesis synchronized with avatar animation. The objective is to build a low-latency, modular system capable of maintaining conversational context and delivering coherent verbal responses in real time.

Some related work include Omniavatar and Omnitalker, wav2lip

The student will investigate and research on how to build AI avatar system that can process and manage real-time text-based user input,

For application please send me an email with title "Master Thesis Application: AI Avatar ". Please also attach your resume and transcript of records in the email. A motivation letter is NOT required.



Technische Universität München



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Supervisor:

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Research project:

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Type:

MA

Research area:

LLM, VLM, AI Agent

Programming language:

Python

Required skills:

LLM, VLM, software
development

Language:

English or German

**For more information please
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