

Klinik und Poliklinik für Psychiatrie und Psychotherapie (Direktorin: Prof. Dr. Philipsen)  
Venusberg-Campus 1 | 53127 Bonn | 0228 287-1572 | sekretariat.psychiatrie@ukbonn.de

## Call for Master's thesis in the field of Psychology and Artificial Intelligence

Dear Students

Our research group Virtual Reality Therapy and Medical Technology (Head: Dr. Niclas Braun) at the Department of Psychiatry and Psychotherapy (Director: Prof. Dr. Alexandra Philipsen) is offering one Master or med. Doctorate thesis on **the development and early testing of an AI-based virtual therapist for the treatment of mental disorders.**

### Short Description:

- Large Language Models in Virtual Reality enable structured, reflective therapeutic conversations with virtual agents.
- Our group is developing an AI-based virtual therapist that uses Socratic questioning.
- A first Unity/VR prototype exists, but its therapeutic usefulness, interaction quality, and robustness require systematic evaluation.
- The announced Master theses will focus on testing, validating, and improving the current LLM-driven dialogue system. Students will analyse interaction quality, identify limitations, and help refine the therapeutic logic and conversational flow.

### Tasks:

- Systematic testing of the Unity-based LLM avatar system Evaluation of Socratic dialogue quality and interaction structure
- Identification of conceptual and technical limitations
- Contribution to improved question logic, feedback, and behavioural responses
- Support in preparing user tests with healthy volunteers
- Development of conceptual suggestions for a more robust therapeutic framework
- Independent completion of the Master thesis

### Ideal Applicant Profile:

- Master's or medical doctorate student (e.g., computer science, medicine, psychology, or otherwise project-relevant field)
- Strong interest in clinical psychology psychotherapy methods digital mental health, AI or human computer interaction
- Curiosity for LLM-based conversational systems, VR and avatar interaction (ideally, experience in Unity, conversational agents, or Large Language Models).
- Very good German and English language skills
- Independent structured and reliable working style
- Motivation for scientific analysis problem solving and iterative development

### Application:

Applicants with disabilities will be given preference if equally qualified, capable, and professionally competent. We look forward to receiving your application. Please submit your application, including the usual documents (cover letter, copies of certificates, CV), electronically to:

**Tobiasz Kaduk (tobiasz.kaduk@ukbonn.de)**  
**Research Group Virtual Reality Therapy and Medical Technology**  
[www.ukbonn.de/virtual-reality](http://www.ukbonn.de/virtual-reality)[www.ukbonn.de/virtual-reality](http://www.ukbonn.de/virtual-reality)