



BSc Thesis Opportunity

A Smartphone App for Heart Failure Patients

Visualizing Health Data and Linking Patients with Clinicians

Introduction

Would you like to design digital health tools that help patients and doctors work together more effectively? The **Center for Medical Physics and Biomedical Engineering** at the **Medical University of Vienna** is offering a Bachelor's Thesis opportunity to develop a smartphone application that presents health status to **heart failure patients** in a clear, patient-friendly way.

The app will connect to our existing **remote sensor solution**, translate complex health data into easy-to-understand visualizations, and establish a **direct link between patients and clinicians** for reporting symptoms and supporting medication adjustments.

Project Overview

The aim of this thesis is to design and test a patient-facing mobile app (Android or iOS) that:

- Collects and integrates data from our remote monitoring platform.
- Displays patients' health status in an **intuitive and understandable** format.
- Enables patients to communicate symptoms directly to clinicians.
- Supports clinician feedback regarding medication and therapy adjustments.

This work is embedded in an ongoing interdisciplinary research project on **remote monitoring in heart failure care**.

Your Responsibilities

- Develop prototypes and interaction flows for a patient-centered app.
- Implement mock-ups and early versions of the app with usability in mind.
- Conduct **usability testing** with patients and refine the interface.
- Collaborate closely with engineers and clinicians to ensure clinical relevance.

Required Background

- Bachelor's student in **Medical Informatics, Software Engineering, Media Informatics**, or a related field.
- Interest in **mobile health, usability, and clinical applications**.
- Experience with app prototyping (e.g., Figma, Android Studio, Xcode) is an advantage.

What We Offer

- Experience in an **interdisciplinary digital health project**.
- Access to real-world clinical use cases in heart failure management.
- Training in usability design and evaluation with patients.
- Close supervision and the opportunity to contribute to ongoing research.

Application

Interested students are invited to send a brief motivation statement to max.haberbusch@meduniwien.ac.at with the subject line: *Bachelor Thesis – Heart Failure App*.

Applications will be reviewed on a rolling basis until the position is filled. **Preferred start date:** October 1, 2025 (flexible).