



PhD in the Development of a Computer-assisted Diagnosis System Combining Decentralized Support of Federated Learning Models (f/m/div.)

Are you looking for the next challenge ?

Mediri is an innovative company offering medical image services for clinical trials. While offering state-of-the-art technology for secure image upload and processing tailored to the individual customer needs, mediri has a strong research track tenure and is collaborating with universities and research institutions in numerous scientific projects on advancing image analysis and diagnosis support.

We are looking for a talented and motivated PhD student to take part in the Doctorate Network "BOSOMSHIELD" (bosomshield.eu; a Marie Skłodowska – Curie DoctorateAction).

You will be part of an international European network community of doctorate candidates working on a comprehensive CAD (computer assisted diagnosis) system based on radiologic and pathologic image biomarkers for diagnosis and prognosis of breast cancer relapse. The main objective of the research project is to develop a CAD system prototype which combines decentralized support of federated learning models for multi-modal image processing with a secure cloud-based image analysis platform, which will be easily accessible via web browser while preserving data privacy.

Your scientific primary objective will be to develop, investigate and evaluate the federated learning concept targeted to the specific projects need, combined with the cloud system. Furthermore, you will integrate the resulting deep learning models in the commercial mTRIAL system workflow at mediri, developing iteratively the integration of a modality independent learning pipeline which can be applied on real patient data within the European project.



PhD offering

You will be enrolled at the Graduate School of Darmstadt University of Applied Sciences (H-DA) and graduate at the attached Doctoral Center Applied Informatics (degree: Dr. rer. nat.). H-DA is one of the largest universities of applied sciences in Germany with approx. 16,000 students, 340 professors, and over 60 degree programmes. You are encouraged to visit the institutions in Darmstadt on a regularly basis in order to attend PhD courses offered at the graduate school and to connect to other PhD students working on learning-based image processing tasks.



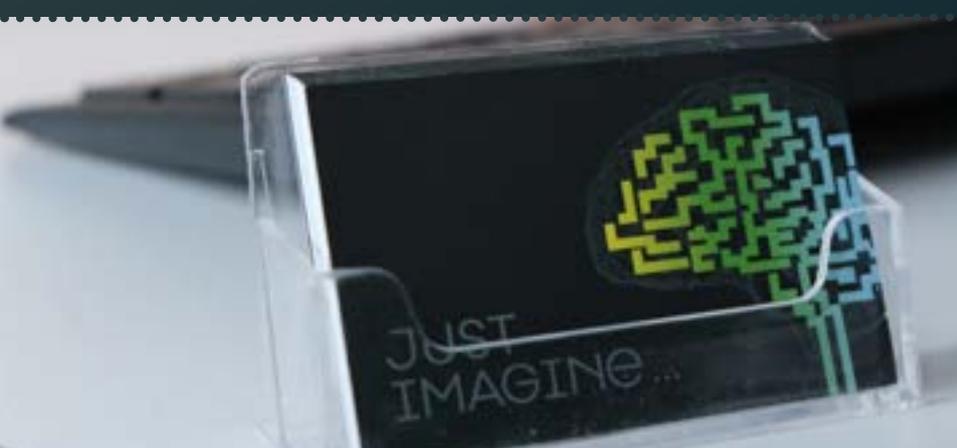
Your Profile

- **Education:** completed degree (M.Sc / Diploma) in Computer Science, Medical Information Technology, Physics or similar
- **Personality:** proactive, team player, assertive and self-initiative
- **Working practice:** analytical, accountable and solution oriented
- **Know-how:** Machine Learning, Python, image processing
- **Beneficial Experience:** statistical data processing, radiology, medical imaging, JAVA
- **Languages:** proficiency in English (spoken and written), German skills beneficial
- **Mobility:** Due to the funding regulations, you must not have resided or carried out your main activity (work, studies, etc.) in Germany for more than 12 months in the 3 years immediately prior to the deadline for submission of proposals (a relaxed rule for Career restarting and Reintegration may apply)



Your benefits

- Be part of a strong European doctoral network community
- Apply your work on real medical image data in clinical research settings
- Start-up culture and short decision processes
- Attractive city to live and work: Heidelberg; the office is close to the central train station
- Home-office agreements possible
- Attractive payment



We look forward to receiving your detailed application (cover letter, CV, certificates, references) via <https://bosomshield.eu/>. Please upload your documents in a single pdf file until September 11, 2022.



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