Research Fellow, Cardiovascular MRI Physics

Institute: Beth Israel Deaconess Medical Center, Harvard Medical School,
Location: 330 Brookline Ave, Boston, MA

Job Summary: The Cardiovascular MR Center at Beth Israel Deaconess Medical Center and Harvard Medical School is seeking a highly motivated Postdoctoral Fellow to join our interdisciplinary team of imaging scientists, AI researchers, radiologists, and cardiologists focused on advancing cardiovascular MRI. The successful candidate will lead technical projects in imaging technology, including the design, implementation, and evaluation of novel MRI techniques. In this role, you will develop project plans, drive technical innovation, and collaborate closely with industrial and academic partners to integrate new methods into clinical MRI systems and image analysis platforms.

We are particularly interested in candidates with expertise in pulse sequence development and MRI physics.

The position is offered for two years and may be extended based on satisfactory performance and availability of funds.

Primary Responsibilities:

- You will collaborate with other group members to design and develop innovative MRI techniques to improve cardiovascular disease imaging, focusing on MRI data acquisition, reconstruction, and analysis.
- Develop novel artificial intelligence models to improve imaging capabilities
- Collaborate with scientists and our industry partners, Siemens Healthineers and Medis, to implement and integrate our AI models into clinical MRI scanners and image analysis platforms.
- Provide technical guidance to lab members on projects at the intersection of engineering, radiology, and cardiology.
- Conduct research in state-of-the-art deep learning models focusing on cardiac imaging and publish your novel findings.

Required Qualifications:

- Ph.D. degree in computer science, electrical engineering, or biomedical engineering with a focus on MRI
- Familiarity with Siemens pulse sequence programming environment (IDEA and ICE platforms preferred)
- Excellent coding skills in Python.
- Strong hands-on experience with deep learning tools (e.g., PyTorch or TensorFlow-Keras).
- Documented history of completed software projects (e.g., GitHub)
- Track record of peer-reviewed publications in MRI
- Strong communication and writing skills.

Interested applicants should email their cover letter, CV, and the names of three references to Dr. Nezafat, *rnezafat@bidmc.harvard.edu*

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