

October 29, 2019

***RE: Ph.D./Master Project on Clinical Software Development for Surgical planning  
Boston Children's Hospital, Harvard Medical School, Boston, Massachusetts, USA***

Cardiovascular MRI Center at Boston Children's Hospital and Harvard Medical School is looking for a graduate student in the area of clinical software development for surgical planning. The successful candidate should have background in computer programming.

Surgical planning is important for children with congenital heart disease. In this project, we aim to develop a software that can assist surgeons in surgical planning. The inputs for this software are 3-dimensional MRI images of the heart and the output of the software is the 3D mesh model of the heart and great vessels. There is an automatic segmentation algorithm available for delineating the heart and great vessels that need to be integrated into the software.

***Task List***

- To review the developed segmentation algorithm.
- To develop a software for surgical planning.
- To evaluate the performance of this software on children with congenital heart disease who are referred for cardiac surgery.
- To report the results at international conferences.

***Requirements***

- Solid background in computer programming.
- Scholarship and/or own sufficient financial resources.
- Starting the project in April 2020.
- The project will take 12 months for Master Thesis and 24 months for Ph.D. Thesis.

Candidates with an interest in this position should contact Mehdi Hedjazi Moghari at Boston Children's Hospital by mid-December 2019:

[mehdi.hedjazimoghari@childrens.harvard.edu](mailto:mehdi.hedjazimoghari@childrens.harvard.edu)