

Image Segmentation and Registration in Oral Health

PROJECT DESCRIPTION

"Quite often, medical imaging involves several imaging modalities to aid in disease diagnosis. These images are aimed to provide diagnostic information of the same region of interest. While the diagnostic information differs depending on modality, the images should provide similar internal structures and features, and thus can be comparable. This leads to problem of image registration and segmentation requirements. The project will involve building computer algorithms to compare images acquired by different imaging modalities and assist oral clinicians to make diagnostic decision using ultrasound and X-ray based images.

The project is meaningful because the intern will work with a research team to build clinical tools to assist clinicians to make proper diagnosis. The success of this project will greatly improve patient care. The intern will work with and learn from a team consisting of imaging physicist, computer scientist, oral clinicians, and a PhD student. Through the team effort, the intern will learn problem-solving skills, imaging processing techniques, teamwork, interpersonal skills, communication skills, presentation skills, scientific writings, and other soft skills. In addition, the ultimate goal of the project is to publish the work in an international journal. "

FACULTY-DEPARTMENT

Medicine - Radiology & Diagnostic Imaging

DESIRED FIELD OF (STUDENT) STUDY

The candidate should have background in electrical engineering, computer sciences, or similar; good command in MATLAB; good computer skills; knowledge in image processing; good organization, verbal/writing communication skills in English; last but not the least, good attitude to learn and be flexible with the changes in all aspects.

INTERNSHIP LOCATION

University of Alberta Main Campus - Edmonton

NUMBER OF INTERNSHIP POSITIONS

1

INTERNSHIP START DATE

July 4

Contact: Brendan Cavanagh, Internship Coordinator (Inbound)
University of Alberta International
intern@ualberta.ca

INTERNSHIP END DATE

3 months after start date

ARE THE DATES FLEXIBLE?

Yes, I am flexible regarding the internship dates. Selected students can contact me to request a date change.