MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

C. Galbán Lab

Research Assistant (RA) Position – Image Processing and Analysis

Job Summary

The Department of Radiology at Michigan Medicine has immediate openings at the assistant level for students interested in the development and application of advanced image-based analytical techniques in the field of thoracic radiology. Our group (http://umich.edu/~cgalbanlab/) has a long history of developing algorithms in MRI and CT to determine biomarkers for disease phenotyping, predicting therapeutic response and survival.

The mission of our group is to fully exploit the spatial and functional information within clinical imaging data with the goal of advancing personalized medicine, both in terms of optimizing disease management, and tailoring treatment to the individual patient. Our on-going projects include:

- Topological feature extraction for improved COPD subtyping.
- Improved detection of air trapping in COPD using machine learning/deep learning.
- Airway tree segmentation and extended centerline simulation for physiological modeling.
- Pulmonary vessel segmentation and analysis for characterizing disease severity.
- Airway optimized radiation planning to minimize lung injury in lung cancer patients.
- Improving detection of deployment related small airways disease in post-combat military personnel.

These studies are performed in a multi-disciplinary environment which includes scientists, physicians, statisticians, and engineers, as well as large clinical trials and industrial partners. We seek individuals with the motivation and initiative to expand the successes of the group. The position will be voluntary during the first semester, and a commitment of 1 year or more to the lab is recommended.

Responsibilities

The individual will assist in image processing and the development of machine learning tools to perform 3D image reconstruction, segmentation, registration, pattern recognition and classification on quantitative imaging data.

Required Qualifications

Excellent written and oral communication skills are required for success in our collaborative research environment. The applicant must be ambitious, talented, and self-motivated with a drive to leverage our research interests, as this position emphasizes the ability to learn new concepts and skills quickly.

Desired Qualifications

Applicants with proficiency in programming languages including C/C++, MATLAB, and/or Python are highly desired. Students currently studying Electrical, Biomedical or Computer Engineering, Mathematics, Computational Biology, Bioinformatics, Machine Learning, Computer Vision, Computer Science, or Statistics are preferred.

Contact Us

To apply to this position please supply the following material to Dr. Alexander Bell (email: alejbell@med.umich.edu) with “Research Assistant Position" in the subject line. Material should include: 1) cover letter and 2) CV. Review of applications will begin immediately and will continue until the position is filled.