**PhD students positions in Machine Learning and Image Analysis at OHSU**

PhD trainee positions are available at Oregon Health and Science University, funded by NIH, private foundations and philanthropy (including $1 billion raised for the [Knight Cancer Institute](https://apps.ohsu.edu/health/knight-cancer/index.html)). The PhD students can choose to obtain degrees in Biomedical Engineering ([BME](https://www.ohsu.edu/xd/education/schools/school-of-medicine/departments/basic-science-departments/biomedical-engineering/)) and from a collaborative French institution. Moreover, students with a Master degree can choose to finish the PhD in three years. You will work closely with the growing Biomedical Imaging Computing Group that currently include Drs. Xubo Song, Young Hwan Chang and Guillaume Thibault, as well as prominent cancer researchers such as Drs. Joe Gray and Gordon Mills. The positions are open immediately and students can start as early as fall of 2020.

Machine learning and deep learning are changing how biomedical research is conducted and how patients are diagnosed and treated. Computational image analysis leverages large-scale machine learning on high performance computing infrastructure to transform qualitative science to quantitative science. We develop algorithms which are used by biomedical researchers and physicians in the clinic. First and foremost, you will be trained to become a machine learning scientist (most of our graduates work in high-tech companies such as Microsoft, Nvidia, Intel, Apple etc.). Furthermore, you will work in an exciting interdisciplinary environment with the potential to directly impact medical research, cancer care and patients’ lives, such as the [SMMART](https://www.ohsu.edu/spatial-systems-biomedicine-center/serial-measurements-molecular-and-architectural-responses) clinical trials.

**You Will:**

* Work and collaborate with a diverse team of machine learning experts, imaging scientists, cancer biologists, radiologists and medical doctors to build a new generation of artificial intelligence in cancer research, detection and treatment.
* Create algorithms and software in machine learning and deep learning for quantitative image analysis that enable discoveries in biomedicine and the evaluation of biological variation in diseases such as cancer. The tasks may include image registration, segmentation, characterization, quantification, and analysis. The imaging modalities may include electron microscopy, cyclic immunofluorescence, MRI and CT.
* Leverage the unique opportunity within the field of computer vision and cancer research provided by the massive amount of image data at OHSU for conventional and unconventional modeling with clinical and biomedical relevance, such as (semi-)supervised, weakly supervised and unsupervised machine learning methods.
* Have the opportunity to leverage modern computing clusters with hundreds of GPU’s and large cluster of DGX nodes.

**Required Skills:**

* Bachelor’s or Master’s Degree in Computer Science, Electrical Engineering, Biomedical Engineering, Math, Physics, or other engineering and science field.
* Strong analytical and computing skills.
* Proficiency in advanced programming languages such as Python, Matlab, C/C++ or Java.
* Interest in machine learning & deep learning and their application in medicine.
* Knowledge about cancer biology and microscopic imaging is a plus.

OSHU is located in Portland, Oregon, in the Pacific Northwest. It is in close proximity of the “Silicon Forest” that consists of many high-tech companies. Portland boasts a thriving biotech scene with many biomedical companies, and is known for its mild climate, natural beauty, access to outdoors, and quality of living. Please send your CV to songx@oshu.edu.