Postdoctoral Fellow Position

University of Southern California
Location: Los Angeles, CA USA
Job Type: Full Time
Opening Date: Immediate
Website: http://loni.usc.edu/

Job Title: Postdoctoral Fellow Position in Machine/Deep Learning for Analysis of Brain Aging and Big Neuroimaging Data

Laboratory of Neuro Imaging (LONI), Neuroimaging and Informatics Institute, Keck School of Medicine, University of Southern California (USC)

Duration: 2 years (option to renew for additional years)
Start date: Soon as possible (start date is negotiable)

Overview:
The primary project may include development of techniques for prediction of surgical / neurodevelopmental outcome using machine (DEEP)-learning algorithms applied to BIG DATA combining imaging-features with psychological / behavioral parameters, clinical parameters and genetic data. The laboratory provides ample opportunity for the development of innovative, focused research and a broad collaborative clinical neuroscience experience as well as for numerous publications in high impact journals. The other research focuses on developing image processing and image analysis techniques for multivariate analysis of various imaging-features that are extracted on human brain MRI. One possible study that the selected postdoc fellow may participate in is to advance part of the present pipeline for morphometry of neonatal and infant brain MRI and/or for diffusion tensor imaging (DTI) or resting-state fMRI analysis (rs-fMRI), to automatically perform multicontrast image analyses.

Required Qualifications:
Position qualifications include a Ph.D. in neuroscience, biomedical engineering, computer science or a related field. The successful applicant will have expertise in anatomical MRI, DTI or rs-fMRI analysis, strong skills in imaging processing such as registration, segmentation and/or surface modeling, statistical methods such as statistical parametric modeling, voxel-based / deformation-based morphometry or graph theory for the structural / functional connectivity analysis. Experience with neuroimaging analysis programs (AFNI, FSL, SPM, FreeSurfer or other relevant programs), and statistical analysis (MATLAB & toolbox – SPM, SurfStat, R) are also required. A person with expertise in machine learning approaches such as deep learning (DNN, CNN) / various classification methods (SVM, probabilistic graphical models, ensemble models) would be highly encouraged, even without broad neuroscience experience. Excellent scientific writing skills and strong publication records are highly desired. Solid big data programming skills with a working knowledge of Linux, C/C++, Python (scikit-learn, Theano, PyMVPA), and Matlab is desirable. Salary and benefits are competitive.

Directions for submitting an application: Candidates should submit CV and (cover letter and concise description of research interests & career goals if possible but not necessary) to Dr. Hosung Kim

For further information, applicants should contact:
Hosung Kim, Ph.D. Assistant Professor of Neurology, Laboratory of Neuro Imaging (LONI)
Email: hosung.kim@loni.usc.edu