

EXPERIENCE

- Aug 2014 – Current **Graduate Student Researcher**, *BICI2 Lab, University of Florida, Gainesville, FL.*
- Working on various machine learning methods for efficient skeletal muscle disease diagnosis. *Currently more focused on deep Convolutional Neural Network (CNN) for image analysis and hashing.*
 - Developed *deep learning* based method for region annotation.
 - Developed graphical user interface for image analysis, search and retrieval for skeletal muscle diagnostic system.
 - Configured MapReduce cluster and implemented several content-based image retrieval algorithms on MapReduce for efficient search and retrieval to assist in diagnosis. MapReduce platform is also used to scale other image analysis tasks.
- May 2014 - July 2014 **Summer Intern**, *Cytoinformatics LLC, Lexington, KY.*
- Worked on the Muscle Disease Diagnostic system.
 - Created GUI for image processing, particularly muscle cell segmentation, which required manual curve adjustment.
 - Created library for new image processing algorithms developed in collaboration with BICI2 lab.
 - Developed company website. (www.cytoinformatics.com)
- May 2012 - July 2014 **Graduate Student Researcher**, *BICI2 Lab, University of Kentucky, Lexington, KY.*
- Worked on basic image analysis methods (morphological operations).
- May 2013 - Aug 2013 **Student Programmer**, *Physical Plant Division, University of Kentucky, Lexington, KY.*
- Worked in the capacity of developer and analyst.
 - Analyzed and developed prototypes and complete web-based applications to utilize in-house GIS data. (Platform : Asp.net, C#, JQuery, dojo toolkit)
- Fall 2015, Fall 2011-
Spring 2013 **Supervised Teaching/Teaching Assistant**
- Courses: EEL 6825 (Pattern Recognition & Intelligence) at the University of Florida, BME3053L (Computer Applications for BME) at the University of Florida, CS221 (First Course in Computer Science for Engineers) at the University of Kentucky.
 - Took replacement lectures and conducted tutorials during lab hours.
- Sep 2008 - June 2011 **Senior Programmer**, *IT Offshore Nepal Pvt. Ltd., Kathmandu, Nepal*
- Developed various desktop and web-based applications.

- Lead a team of developers to understand client requirement, develop prototypes, generate documents and develop applications. Directly reported to business process managers.
- Lead R&D to explore new development technologies and develop sample applications (e.g. simple animated games using Silverlight and WPF).
- Collaborated and assisted the design team to implement JQuery based functions (image scrolls, simple animations, HTML objects manipulations etc.) in HTML slicing projects.

Feb 2008 - July 2008 **Developer**, *Prologic First India Pvt. Ltd., Gurgaon, India*

Jan 2007 - July 2011 **Part-time Provider**, *ResCon Pvt. Ltd., Kathmandu, Nepal*

EDUCATION

Expected Ph.D. in Computer Engineering, **University of Florida**, Gainesville, FL.

Fall 2017 Advisor : Lin Yang, PhD

Major : Computer Vision, Large Scale Machine Learning, Biomedical Image Analysis and Informatics

GPA: 3.93

Courses: Pattern Recognition, Machine Learning, Big Data, Cloud Computing, Introduction to Biomedical Image Analysis and Informatics, Algorithm.

Nov 2007 Bachelor of Engineering, **Kantipur City College affiliated to Purbanchal University**, Kathmandu, Nepal.

Major : Computer Engineering

Thesis : “Automated Speech Recognition System”

SKILLS

Scientific and data: Matlab (*proficient*), experience with C/C++, Python (*competent*).

Application and web: C# (*proficient*), prior experience with PHP.

Additional experience (*competent*): Java, JavaScript, JQuery, CSS, SQL, and some high-performance computing tools based on MapReduce.

RECENT PUBLICATIONS

Spatial Clockwork Recurrent Neural Network for Muscle Perimysium Segmentation to appear at *the 19th International Conference on MICCAI*, 2016

Yuanpu Xie, Zizhao Zhang, Manish Sapkota, Lin Yang.

Automatic Muscle Perimysium Annotation using Deep Convolutional Neural Network at *ISBI*, 2015

Manish Sapkota, Fuyong Xing, Hai Su, & Lin Yang.

Skeletal Muscle Cell Segmentation Using Distributed Convolutional Neural Network at *HPC MICCAI-2015*

Manish Sapkota, Fuyong Xing, Fujun Liu, & Lin Yang.