Liyang Lu

Software Engineer at Microsoft

Summary

I'm a PhD candidate in ECE department at Rice University, working on designing of image reconstruction algorithms and novel computational imaging systems that can capture the hidden beauty of nature and let us explore our world in new dimensions.

Years of experience in working with both hardware and software has given me deeper understanding of signal, data, imaging and vision, and has let me gain a wide range of skills, from deep learning to optical engineering. But if you ask me the one thing that I learned during my PhD life, I will say it's "to be curious and stay hungry".

Exposed to the fields of machine learning, computer vision, and data science during my research work, I'm fascinated by the infinite possibilities brought to us by huge amount of data and incredible computing power we have today, and I would love to be a constant learner in these areas.

Experience

Software Engineer at Microsoft
June 2017 - Present

Graduate Student at Rice University
August 2012 - May 2017 (4 years 10 months)

Designed and Realized a Single-Pixel Camera That Can Capture 4D Hyperspectral Video Data (Single-Doxel Imager)
Realized an Optimization Algorithm That Recovers 4D Hyperspectral Video Data from Highly Compressed Imaging Signals (Compression Ratio up to 1000:1)
Designed Machine Learning Algorithms for Compressive Sensing Computer Vision Applications
Built a Compressive Hyperspectral Dark-Field Microscope to Image Plasmons
Used Java and LabVIEW in Experiments to Control the Hardwares and Collect the Data

Research Intern at Ricoh Innovations Corporation
June 2014 - August 2014 (3 months)

Designed and Realized a High Accuracy Single-Shot 3D Surface Shape Measurement System Based on a Plenoptic Camera
Developed an Algorithm Based on Computer Vision and Machine Learning Techniques to Recover Surface Properties and Fine 3D Structures of Specular Surfaces

Listed as a Co-Inventor on 2 US Patents: US20160205394 A1 and US20160202048 A1. Subsequent Applications Were Filed in Europe and China.

The Results Were Later Published in Article ”Single-Shot Specular Surface Reconstruction With Gonio-Plenoptic Imaging” at The IEEE International Conference on Computer Vision (ICCV), June 2015, One of the Top Conferences in Computer Vision.

Education

Rice University

Doctor of Philosophy (Ph.D.), Electrical and Computer Engineering, 2012 - 2017

Shanghai Jiao Tong University

Bachelor of Science (BS), Electrical and Electronics Engineering, 2008 - 2012

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Contact Liyang on LinkedIn