Lingchen Zhu

28 9th St Unit 508, Medford, MA 02155
+1-678-772-2209
lzhu14@slb.com

Education

08/2011–12/2016 **Ph.D. in Electrical and Computer Engineering**, *Georgia Institute of Technology*, North Ave, Atlanta, GA 30332, Advisor: Prof. James H. McClellan, GPA: 3.9/4.0.

05/2009–05/2011 **Master of Science in Electrical and Computer Engineering**, *Georgia Institute of Technology*, North Ave, Atlanta, GA 30332, GPA: 4.0/4.0.

08/2008–03/2011 **Master of Science in Telecommunication and Information System**, *Shanghai Jiao Tong University*, 800 Dongchuan Road, Shanghai 200240, China, Advisor: Prof. Hongkai Xiong, GPA: 3.5/4.0.

09/2004–07/2008 **Bachelor of Science in Information Engineering**, *Southeast University*, 2 Sipailou, Nanjing 210096, China, GPA: 3.7/4.0.

Industrial Experience

09/2016–Present **Research Scientist**, *Schlumberger-Doll Research Center*, Cambridge, MA.
Manager: Dr. Sandip Bose

Project Acoustic Signal Processing for Well Borehole

- Process signals from sonic and ultrasonic tools to evaluate borehole cementing for well integrity
- Designed supervised & unsupervised machine learning frameworks for well borehole cementing evaluation
- Developed a GPU-based (CUDA) software package for fast & efficient acoustic signal processing

05/2015–08/2015 **Research Intern**, *Schlumberger-Doll Research Center*, Cambridge, MA.
Manager: Dr. Julius Kusuma

Project Real-time Mud Pulse Telemetry (MPT) System for Borehole Image Transmission (Submitted 1 US Patent)

- Designed an efficient and robust borehole image compression system based on compressive sensing
- Implemented pattern recognition method to effectively identify various borehole image structures
- Improved decompressed image quality for ultra-low MPT rates while preserving crucial borehole image structures

05/2013–08/2013 **Research Intern**, *InterDigital Communications Corp.*, Melville, NY.
Manager: Dr. Kyle Jung-Lin Pan

Project An Enhanced Compressed Sensing-based Interference-resistant Receiver for LTE Systems (Published 1 Paper)

- Designed a novel interference-resistant receiver for wideband LTE system by iterative interference cancellation
- Improved receiver performance under mutually interfering and noisy environments

Academic Experience

08/2011–08/2016 **Graduate Research Assistant**, *Center for Energy and Geo Processing*, Georgia Institute of Technology, Atlanta, GA.

Dissertation Sparse Seismic Signal Processing using Adaptive Dictionaries (Published 4 Papers)

- Individually developed an Matlab/C-based software package *Seismic Simulation, Survey and Imaging* (S^3I) that facilitates seismic simulations of wave propagation, data acquisition, migration and inversion, downloadable from `http://cegp.ece.gatech.edu/codedata/s3i/`
- Proposed and implemented sparsity-promoting algorithms for full waveform inversion based on compressive sensing
- Proposed and implemented seismic data denoising scheme based on sparse dictionary learning method

Project Interference Cancellation for Heterogeneous Network (Het-Net) System (Published 6 Papers)

- Proposed and implemented Het-Net channel estimation using compressive sensing and iterative cancellation
- Proposed and implemented spectrum sensing algorithms by exploiting the second-order cyclostationarity of the signals to recognize various sorts of narrowband interference sources

08/2008–03/2011 **Graduate Research Assistant**, *Shanghai Jiao Tong University*, Shanghai, China.
Advisor: Prof. Hongkai Xiong

Thesis Sparse video coding based on adaptive multiscale and orientational multiresolution descriptions (Published 4 Papers)

- Proposed a multiscale representation framework for multimedia signals with 2-D nonuniform directional filters
- Implemented 2-D nonuniform directional filters with OpenCV on the reference software, *VidWav*, originally developed by Microsoft