Jihyun Yang

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Doctoral Projects and Experience	**Distributed Acoustic Sensing (DAS)**
	- Processing DAS data to recover Rayleigh wave component
	- Surface wave inversion using field low-frequency Dark Fiber DAS dataset
	- Designing a monitoring system with DAS
	Full Waveform Inversion (FWI)
	- Optimal generalized inverse for the Laplace and Laplace-Fourier domain waveform inversion
	- Regularization for waveform inversion
	Program optimization for geophysical software
	- Parallel computing optimization with CUDA and MPI: 2D Elastic Wave Modeling, Domain Decomposition, FWI parallelization
	Machine Learning
	- Data-Driven inversion of CO2 leakage simulation data
	- Designing event detection systems via FCN(Fully Connected Network) using Pytorch
	- Develop novel method for Pseudo - Labeling
	Signal Processing & Image processing
	- Deblurring Kernels
	- Compressive Sensing

Education	**Ph.D. Student** (Expected 2021)
	Geophysics, Colorado School of Mines, Golden, United States
	Minor in Computational and Applied Mathematics
	Master of Engineering (February 2018)
	Energy Resource Engineering, Seoul National University, Seoul, Republic of Korea
	Bachelor of Engineering (February 2016)
	Energy Resource Engineering, Seoul National University, Seoul, Republic of Korea
	Bachelor of Science (February 2016)
	Computational Science, Seoul National University, Seoul, Republic of Korea

Work Experience	**Summer Research Intern** June. 2019 ~ Aug. 2019
	Los Alamos National Laboratory
	The Information Science & Technology Institute (ISTI) summer school
	AML(Applied Machine Learning) in Geosciences (Advisor: Dr. Youzuo Lin)
	Visiting Scholar Sep. 2017 ~ Dec. 2017
	Geophysics Lab, Texas A&M University (Advisor: Dr. Gibson)

Awards and Scholarship	**SEG/ExxonMobil Student Education Program(SEP) 2019**
	2019 Los Alamos National Lab Student Symposium Winner
	Jihyun Yang, Renan Rojas-Gomez (NSEC) - *Data-Driven FWI Methods for Seismic Imaging: Generalization and Robustness Study*
	Korea Scholarship Foundation (2011~2016)

| Publications | Shragge, **J., Yang,** J., Issa, N. A., Roelens, M., Dentith, M., & Schediwy, S. (2019). Low-frequency ambient Distributed Acoustic Sensing (DAS): Useful for subsurface investigation?. In *SEG Technical Program Expanded Abstracts 2019* (pp. 963-967). Society of Exploration Geophysicists. |

Research Experience	**Researcher**	Aug. 2018 ~.

Institute : Center for Wave Phenomena., Colorado School of Mines
Subject: Data Processing of DAS(Distributed Acoustic Sensing)

Researcher   Mar. 2016 ~ Feb 2018.
Institute : Geophysical Prospecting Lab., Seoul National University
Subject : Research on Exploration Technologies and an On-site Verification
     to Enhance the Fracturing Efficiency of a Shale Gas Formation
Funding : Ministry of Trade, Industry & Energy

Researcher   Mar. 2016 ~ Feb 2018.
Institute : Geophysical Prospecting Lab., Seoul National University
Subject : Iterative Direct Waveform Inversion for subsurface imaging
Funding : Ministry of Trade, Industry & Energy

Researcher & Algorithm Developer
Company: VisualCamp
Subject: Eye tracking in a mobile device - Computational Optimization, Face landmark detection, prediction

Computer Skills

- Advanced programmer in:
  Modern Fortran(Fortran90) ,C++, C, MATLAB, Python, Java
- Proficient in:
  CUDA, MPI, OpenMP parallelization
- Libraries:
  Pytorch, Tensorflow, Keras, OpenCV, Scikit-Learn

Associations

Society of Exploration Geophysicists (SEG)
Society of Petroleum Engineers (SPE)

Volunteer Work and External Activities

Staff and members of SNU's running club (Dalisha)
Member of SNU Computer Science Society (SCSC)
- Participate in Python education activities and machine learning seminars
Samsung Dream Class Mentoring
- Mathematics and English Teaching of Low Income Middle School Students (2013 ~ 2014)