

Ali Siahkoohi

Email: alisk@gatech.edu

Personal website: alisiahkoohi.github.io

Last updated: August 2021

EDUCATION

Georgia Institute of Technology

756 W Peachtree St NW, Floor 13, Atlanta, GA 30308, USA

Doctor of Philosophy in Computational Science and Engineering

- Degree Advisor: [Felix J. Herrmann](#)

September 2016 – August 2022 (expected)

University of Tehran

North Kargar St, Tehran, Tehran, Iran

Master of Science in Geophysics

- Degree Advisor: [Ali Gholami](#)

September 2013 – March 2016

Sharif University of Technology

Azadi Ave., Tehran, Tehran, Iran

Bachelor of Science in Electrical Engineering

September 2008 – August 2013

RESEARCH INTERESTS

Deep Learning, Natural Language Processing, Inverse Problems, Uncertainty Quantification, Signal Processing

RESEARCH EXPERIENCE

Google Research

Research Intern

August 2021 – November 2021

Georgia Institute of Technology

Graduate Research Assistant

February 2018 – Present

The University of British Columbia

Graduate Research Assistant

September 2016 – January 2018

TEACHING EXPERIENCE

Georgia Institute of Technology

Graduate Teaching Assistant

- Imaging with Data-Driven Models
- Numerical Analysis I

September 2019 – December 2019

September 2018 – December 2018

Sharif University of Technology

Teaching Assistant

- Signals and Systems
- Digital Signal Processing
- Linear Algebra
- Principles of Electrical Engineering Laboratory

January 2011 – May 2011

January 2011 – May 2011

September 2010 – December 2010

September 2009 – December 2009

PROGRAMMING SKILLS

Languages: Python, Julia, C, MATLAB, Bash

Machine Learning Libraries: TensorFlow, PyTorch, Flux.jl

Cloud Services Platform: Amazon Web Services (AWS)

Message Passing Standard: MPI

Version Control Systems: Git, SVN

Document Preparation Systems: L^AT_EX, Markdown

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 - [2] **Ali Siahkoohi** and Felix J. Herrmann. “Learning by example: fast reliability-aware seismic imaging with normalizing flows”. Apr. 2021. URL: <https://arxiv.org/abs/2104.06255>.
 - [3] Rajiv Kumar, Maria Kotsi, **Ali Siahkoohi**, and Alison Malcolm. “Enabling uncertainty quantification for seismic data pre-processing using normalizing flows (NF)—an interpolation example”. Apr. 2021. URL: <https://slim.gatech.edu/Publications/Public/Conferences/SEG/2021/kumar2021SEGeuq/kumar2021SEGeuq.pdf>.
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 - [5] **Ali Siahkoohi**, Gabrio Rizzuti, Mathias Louboutin, and Felix J. Herrmann. “Unsupervised data-guided uncertainty analysis in imaging and horizon tracking”. In: *3rd Annual Meeting of the SIAM Texas-Louisiana Section*. Oct. 2020.
 - [6] **Ali Siahkoohi**, Philipp A. Witte, Mathias Louboutin, Felix J. Herrmann, and Gabrio Rizzuti. “Seismic Imaging with Uncertainty Quantification: Sampling from the Posterior with Generative Networks”. In: *SIAM Conference on Imaging Science*. IS20. July 2020.
 - [7] **Ali Siahkoohi**, Gabrio Rizzuti, Philipp A. Witte, and Felix J. Herrmann. “Faster Uncertainty Quantification for Inverse Problems with Conditional Normalizing Flows”. In: *Tech. rep. TR-CSE-2020-2, Georgia Institute of Technology*. July 2020. URL: <https://arxiv.org/abs/2007.07985>.
 - [8] Gabrio Rizzuti, **Ali Siahkoohi**, Philipp A. Witte, and Felix J. Herrmann. “Parameterizing uncertainty by deep invertible networks, an application to reservoir characterization”. In: *SEG Technical Program Expanded Abstracts 2020*. Sept. 2020, pp. 1541–1545. DOI: [10.1190/segam2020-3428150.1](https://doi.org/10.1190/segam2020-3428150.1). URL: <https://arxiv.org/abs/2004.07871>.
 - [9] Mi Zhang, **Ali Siahkoohi**, and Felix J. Herrmann. “Transfer learning in large-scale ocean bottom seismic wavefield reconstruction”. In: *SEG Technical Program Expanded Abstracts 2020*. Sept. 2020, pp. 1666–1670. DOI: [10.1190/segam2020-3427882.1](https://doi.org/10.1190/segam2020-3427882.1). URL: <https://arxiv.org/abs/2004.07388>.
 - [10] **Ali Siahkoohi**, Gabrio Rizzuti, and Felix J. Herrmann. “Weak deep priors for seismic imaging”. In: *SEG Technical Program Expanded Abstracts 2020*. Sept. 2020, pp. 2998–3002. DOI: [10.1190/segam2020-3417568.1](https://doi.org/10.1190/segam2020-3417568.1). URL: <https://arxiv.org/abs/2004.06835>.
 - [11] **Ali Siahkoohi**, Gabrio Rizzuti, and Felix J. Herrmann. “Uncertainty quantification in imaging and automatic horizon tracking—a Bayesian deep-prior based approach”. In: *SEG Technical Program Expanded Abstracts 2020*. Sept. 2020, pp. 1636–1640. DOI: [10.1190/segam2020-3417560.1](https://doi.org/10.1190/segam2020-3417560.1). URL: <https://arxiv.org/abs/2004.00227>.
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 - [14] **Ali Siahkoohi**, Mathias Louboutin, and Felix J. Herrmann. “Neural network augmented wave-equation simulation”. In: *Tech. rep. TR-CSE-2019-1, Georgia Institute of Technology*. Sept. 2019. URL: <https://arxiv.org/abs/1910.00925>.
 - [15] **Ali Siahkoohi**, Rajiv Kumar, and Felix J. Herrmann. “Deep-learning based ocean bottom seismic wavefield recovery”. In: *SEG Technical Program Expanded Abstracts 2019*. Aug. 2019, pp. 2232–2237. DOI: [10.1190/segam2019-3216632.1](https://doi.org/10.1190/segam2019-3216632.1).
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