Ali Siahkoohi

Simons Postdoctoral Fellow Dept. of Comp. Applied Math. & Operations Research Rice University alisk@rice.edu https://alisiahkoohi.github.io Last updated: November 20, 2024

Research Interests and Highlights

My research, under the mentorship of Richard G. Baraniuk and Maarten V. de Hoop, focuses on understanding and addressing AI robustness concerns, particularly by designing scalable methods for **quantifying uncertainty in AI** models through the use of generative models, variational inference, and hypernetworks.

I have published 39 peer-reviewed articles (citations: 874, h-index: 18, i10-index: 26), including 17 first-author papers in high-impact journals and conference proceedings, such as NeurIPS, ICML, and ICLR.

Education

Georgia Institute of Technology

August 2022

Ph.D. in Computational Science and Engineering (minor in Applied Math.)

Atlanta, GA, USA

Advised by Felix J. Herrmann

University of Tehran M.Sc. in Geophysics

March 2016 Tehran, Iran

Sharif University of Technology

B.Sc. in Electrical Engineering

August 2013

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Tehran, Iran

Academic Appointments

Rice University

August 2022 – Present Houston, TX, USA

Simons Postdoctoral Fellow

Department of Computational Applied Mathematics & Operations Research

Jointly hosted by Maarten V. de Hoop and Richard G. Baraniuk

Publications

Google Scholar profile: https://scholar.google.com/citations?user=sxRMqYIAAAAJ&h

In Preparation & Under Review

- P2. P. M. Mayer, L. Luzi, <u>A. Siahkoohi</u>, D. H. Johnson, and R. G. Baraniuk. Improving fairness and mitigating MADness in generative models. Preprint arXiv:2405.13977; under review by *ICLR*, 2024 [pdf] [bib]
- P1. R. Orozco, <u>A. Siahkoohi</u>, M. Louboutin, and F. J. Herrmann. ASPIRE: Iterative amortized posterior inference for Bayesian inverse problems. Preprint arXiv:2405.05398; under review by *Inverse Problems*, 2024a [pdf] [code] [bib]

Journal Publications

- J7. R. Orozco, P. Witte, M. Louboutin, <u>A. Siahkoohi</u>, G. Rizzuti, B. Peters, and F. J. Herrmann. InvertibleNetworks.jl: A Julia package for scalable normalizing flows. *Journal of Open Source Software*, 9(99):6554, 2024b
 - [pdf] [code] [link] [bib]
- J6. L. Luzi, P. M. Mayer, J. Casco-Rodriguez, <u>A. Siahkoohi</u>, and R. G. Baraniuk. Boomerang: Local sampling on image manifolds using diffusion models. *Transactions on Machine Learning Research*, 2024a

- [pdf] [code] [link] [bib]
- J5. M. Louboutin, Z. Yin, R. Orozco, T. J. Grady II, <u>A. Siahkoohi</u>, G. Rizzuti, P. A. Witte, O. Møyner, G. J. Gorman, and F. J. Herrmann. Learned multiphysics inversion with differentiable programming and machine learning. *The Leading Edge*, 42(7):474–486, 2023 [pdf] [link] [bib] [featured in Seismic Soundoff] [journal's most downloaded paper in '23]
- J4. Y. Zhang, Z. Yin, O. López, <u>A. Siahkoohi</u>, M. Louboutin, R. Kumar, and F. J. Herrmann. Optimized time-lapse acquisition design via spectral gap ratio minimization. *Geophysics*, 88(4):A19–A23, 2023a [pdf] [link] [bib]
- J3. <u>A. Siahkoohi</u>, G. Rizzuti, R. Orozco, and F. J. Herrmann. Reliable amortized variational inference with physics-based latent distribution correction. *Geophysics*, 88(3):R297–R322, 2023a [pdf] [slides] [code] [link] [bib] [featured in Geophysics Bright Spots]
- J2. <u>A. Siahkoohi</u>, G. Rizzuti, and F. J. Herrmann. Deep Bayesian inference for seismic imaging with tasks. *Geophysics*, 87(5):S281–S302, 2022a [pdf] [code] [link] [bib]
- J1. <u>A. Siahkoohi</u>, M. Louboutin, and F. J. Herrmann. The importance of transfer learning in seismic modeling and imaging. *Geophysics*, 84(6):A47–A52, 2019a [pdf] [code] [link] [bib]

Peer-Reviewed Conference Proceedings

- C32. S. Alemohammad, J. Casco-Rodriguez, L. Luzi, A. I. Humayun, H. Babaei, D. LeJeune, <u>A. Siahkoohi</u>, and R. G. Baraniuk. Self-consuming generative models go MAD. In *The Twelfth International Conference on Learning Representations*, 2024 [pdf] [extended pdf] [poster] [link] [bib] [featured in the news ^{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12}]
- C31. L. Luzi, D. LeJeune, A. Siahkoohi, S. Alemohammad, V. Saragadam, H. Babaei, N. Liu, Z. Wang, and R. G. Baraniuk. Titan: Bringing the deep image prior to implicit representations. In *IEEE International Conference on Acoustics, Speech and Signal Processing*, pages 6165–6169, 2024b [pdf] [code] [link] [bib]
- C30. L. Baldassari, <u>A. Siahkoohi</u>, J. Garnier, K. Sølna, and M. V. de Hoop. Conditional score-based diffusion models for Bayesian inference in infinite dimensions. In *Advances in Neural Information Processing Systems*, volume 36, pages 24262–24290, 2023 [pdf] [slides] [poster] [code] [link] [bib] [featured as a Spotlight presentation]
- C29. <u>A. Siahkoohi</u>, R. Morel, M. V. de Hoop, E. Allys, G. Sainton, and T. Kawamura. Unearthing InSights into Mars: Unsupervised source separation with limited data. In *Proceedings of the 40th International Conference on Machine Learning*, volume 202, pages 31754–31772, 2023b [pdf] [slides] [poster] [code] [link] [bib]
- C28. R. Orozco, M. Louboutin, <u>A. Siahkoohi</u>, G. Rizzuti, T. van Leeuwen, and F. J. Herrmann. Amortized normalizing flows for transcranial ultrasound with uncertainty quantification. In *Medical Imaging with Deep Learning*, volume 227, pages 332–349, 2023a [pdf] [link] [bib]
- C27. R. Orozco, <u>A. Siahkoohi</u>, M. Louboutin, and F. J. Herrmann. Refining amortized posterior approximations using gradient-based summary statistics. In *5th Symposium on Advances in Approximate Bayesian Inference*, 2023b [pdf] [link] [bib]
- C26. R. Orozco, <u>A. Siahkoohi</u>, G. Rizzuti, T. van Leeuwen, and F. J. Herrmann. Adjoint operators enable fast and amortized machine learning based Bayesian uncertainty quantification. In *Medical Imaging* 2023: *Image Processing*, volume 12464, page 124641L, 2023c [pdf] [link] [bib]
- C25. Y. Zhang, Z. Yin, O. Lopez, A. Siahkoohi, M. Louboutin, and F. J. Herrmann. 3D seismic survey design

by maximizing the spectral gap. In *Third International Meeting for Applied Geoscience & Energy*, 2023b

[pdf] [poster] [bib]

- C24. <u>A. Siahkoohi</u>, M. Chinen, T. Denton, W. B. Kleijn, and J. Skoglund. Ultra-low-bitrate speech coding with pretrained Transformers. In *Proceedings of Interspeech*, pages 4421–4425, 2022b [pdf] [link] [bib]
- C23. <u>A. Siahkoohi</u>, M. Louboutin, and F. J. Herrmann. Velocity continuation with Fourier neural operators for accelerated uncertainty quantification. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1765–1769, 2022c [pdf] [slides] [code] [link] [bib]
- C22. M. Louboutin, P. Witte, <u>A. Siahkoohi</u>, G. Rizzuti, Z. Yin, R. Orozco, and F. J. Herrmann. Accelerating innovation with software abstractions for scalable computational geophysics. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1482–1486, 2022 [pdf] [slides] [link] [bib]
- C21. Z. Yin, <u>A. Siahkoohi</u>, M. Louboutin, and F. J. Herrmann. Learned coupled inversion for carbon sequestration monitoring and forecasting with Fourier neural operators. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 467–472, 2022 [pdf] [slides] [code] [link] [bib] [student oral paper honorable mention]
- C20. Y. Zhang, M. Louboutin, <u>A. Siahkoohi</u>, Z. Yin, R. Kumar, and F. J. Herrmann. A simulation-free seismic survey design by maximizing the spectral gap. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 15–20, 2022 [pdf] [slides] [code] [link] [bib]
- C19. <u>A. Siahkoohi</u>, R. Orozco, G. Rizzuti, and F. J. Herrmann. Wave-equation based inversion with amortized variational Bayesian inference. In *EAGE Deep learning for seismic processing: Investigating the foundations workshop*, 2022d [pdf] [slides] [code] [link] [bib]
- C18. R. Orozco, <u>A. Siahkoohi</u>, G. Rizzuti, T. van Leeuwen, and F. J. Herrmann. Photoacoustic imaging with conditional priors from normalizing flows. In *NeurIPS Workshop on Deep Learning and Inverse Problems*, 2021
 [pdf] [poster] [link] [bib]
- C17. <u>A. Siahkoohi</u>, G. Rizzuti, M. Louboutin, P. Witte, and F. J. Herrmann. Preconditioned training of normalizing flows for variational inference in inverse problems. In *3rd Symposium on Advances in Approximate Bayesian Inference*, 2021 [pdf] [slides] [code] [link] [bib]
- C16. <u>A. Siahkoohi</u> and F. J. Herrmann. Learning by example: Fast reliability-aware seismic imaging with normalizing flows. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1580–1585, 2021 [pdf] [slides] [code] [link] [bib]
- C15. R. Kumar, M. Kotsi, <u>A. Siahkoohi</u>, and A. Malcolm. Enabling uncertainty quantification for seismic data preprocessing using normalizing flows (NF)—An interpolation example. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1515–1519, 2021 [pdf] [code] [link] [bib]
- C14. G. Rizzuti, <u>A. Siahkoohi</u>, P. A. Witte, and F. J. Herrmann. Parameterizing uncertainty by deep invertible networks, an application to reservoir characterization. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1541–1545, 2020 [pdf] [slides] [code] [link] [bib]
- C13. M. Zhang, <u>A. Siahkoohi</u>, and F. J. Herrmann. Transfer learning in large-scale ocean bottom seismic wavefield reconstruction. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1666–1670, 2020

- [pdf] [slides] [code] [link] [bib]
- C12. <u>A. Siahkoohi</u>, G. Rizzuti, and F. J. Herrmann. Weak deep priors for seismic imaging. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 2998–3002, 2020a [pdf] [slides] [code] [link] [bib]
- C11. <u>A. Siahkoohi</u>, G. Rizzuti, and F. J. Herrmann. Uncertainty quantification in imaging and automatic horizon tracking—A Bayesian deep-prior based approach. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 1636–1640, 2020b [pdf] [slides] [code] [link] [bib]
- C10. <u>A. Siahkoohi</u>, G. Rizzuti, and F. J. Herrmann. A deep-learning based Bayesian approach to seismic imaging and uncertainty quantification. In *European Association of Geoscientists & Engineers Conference and Exhibition Extended Abstracts*, 2020c [pdf] [slides] [code] [link] [bib]
- C9. F. J. Herrmann, <u>A. Siahkoohi</u>, and G. Rizzuti. Learned imaging with constraints and uncertainty quantification. In *NeurIPS Deep Inverse Workshop*, 2019 [pdf] [slides] [poster] [link] [bib]
- C8. <u>A. Siahkoohi</u>, R. Kumar, and F. J. Herrmann. Deep-learning based ocean bottom seismic wavefield recovery. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 2232–2237, 2019b
 [pdf] [code] [slides] [link] [bib]
- C7. <u>A. Siahkoohi</u>, D. J. Verschuur, and F. J. Herrmann. Surface-related multiple elimination with deep learning. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 4629–4634, 2019c [pdf] [slides] [link] [bib]
- C6. G. Rizzuti, <u>A. Siahkoohi</u>, and F. J. Herrmann. Learned iterative solvers for the Helmholtz equation. In *European Association of Geoscientists & Engineers Conference and Exhibition Extended Abstracts*, 2019
 [pdf] [slides] [link] [bib]
- C5. <u>A. Siahkoohi</u>, M. Louboutin, R. Kumar, and F. J. Herrmann. Deep convolutional neural networks in prestack seismic—two exploratory examples. In *Society of Exploration Geophysicists Technical Program Expanded Abstracts*, pages 2196–2200, 2018a [pdf] [poster] [link] [bib]
- C4. <u>A. Siahkoohi</u>, R. Kumar, and F. J. Herrmann. Seismic data reconstruction with generative adversarial networks. In *European Association of Geoscientists & Engineers Conference and Exhibition Extended Abstracts*, 2018b
 [pdf] [slides] [link] [bib]
- C3. <u>A. Siahkoohi</u> and A. Gholami. Sparsity promoting least squares migration for laterally inhomogeneous media. In *7th EAGE Saint Petersburg International Conference and Exhibition*, 2016 [pdf] [link] [bib]
- C2. M. S. Ebrahimi, M. H. Daraei, J. Rezaei, and <u>A. Siahkoohi</u>. A novel utilization of wireless sensor networks as data acquisition system in smart grids. In *Materials Science and Information Technology*, volume 433-440, pages 6725–6730, 2012 [pdf] [link] [bib]
- C1. A. Najafi, <u>A. Siahkoohi</u>, and M. B. Shamsollahi. A content-based digital image watermarking algorithm robust against JPEG compression. In *IEEE International Symposium on Signal Processing and Information Technology*, pages 432–437, 2011 [pdf] [link] [bib]

Theses

T2. <u>A. Siahkoohi</u>, R. Morel, R. Balestriero, E. Allys, G. Sainton, T. Kawamura, and M. V. de Hoop. Martian time-series unraveled: A multi-scale nested approach with factorial variational autoencoders. Technical Report arXiv:2305.16189, Rice University, 2024 [pdf] [code] [slides] [bib]

T1. <u>A. Siahkoohi</u>. *Deep generative models for solving geophysical inverse problems*. PhD thesis, **Georgia Institute of Technology**, 2022 [pdf] [slides] [link] [bib]

Technical Reports

R4. L. Baldassari, <u>A. Siahkoohi</u>, J. Garnier, K. Sølna, and M. V. de Hoop. Taming score-based diffusion priors for infinite-dimensional nonlinear inverse problems. Technical Report arXiv:2405.15676, Rice University, 2024
[pdf] [bib]

R3. M. Louboutin, <u>A. Siahkoohi</u>, R. Wang, and F. J. Herrmann. Low-memory stochastic backpropagation with multi-channel randomized trace estimation. Technical Report arXiv:2106.06998, Georgia Institute of Technology, 2021 [pdf] [code] [link] [bib]

- R2. <u>A. Siahkoohi</u>, G. Rizzuti, P. A. Witte, and F. J. Herrmann. Faster uncertainty quantification for inverse problems with conditional normalizing flows. Technical Report arXiv:2007.07985, Georgia Institute of Technology, 2020d [pdf] [link] [bib]
- R1. <u>A. Siahkoohi</u>, M. Louboutin, and F. J. Herrmann. Neural network augmented wave-equation simulation. Technical Report arXiv:1910.00925, Georgia Institute of Technology, 2019d [pdf] [code] [link] [bib]

Awards

Future Faculty Fellows Award

June 2024

Rice University, George R. Brown School of Engineering

Houston, TX, USA

Selected Research Proposal Experience

Scientific ML-supported subsurface characterization in physical function spaces

Awarded, 2024

- ▶ Funding Source: Occidental Petroleum Corporation, PI: Maarten V. de Hoop
- ► Contributions: Developed ideas and contributed to writing for two of the four research thrusts entitled "Score diffusion, nonlinear operators, and uncertainty quantification in function spaces" and "Unsupervised, factorial data decomposition and hidden signals: Reservoir characterization below salt, denoising, and monitoring"

Learning and forecasting complex fault dynamics – Predictability of earthquakes

Not funded, 2024

- ▶ Funding Source: National Science Foundation, PI: Maarten V. de Hoop
- ► Contributions: Developed ideas and contributed to writing for one of the four research thrusts entitled "Structure in data, clustering, lattice theory, and diffusion models"

Exploring the local geometry of deep networks

Awarded, 2023

- ► Funding Source: Office of Naval Research (DURIP), PI: Richard G. Baraniuk
- ► Contributions: Developed ideas and wrote research objectives for one of the three research thrusts entitled "The geometry of deep probabilistic models"

A deep-learning framework for stable, interpretable, and uncertainty-quantified hybrid modeling of multi-scale complex systems Not funded, 2023

- ▶ Funding Source: Department of Energy, PI: Pedram Hassanzadeh
- ► Contributions: Coordinated efforts within Richard G. Baraniuk's group (a co-PI) to develop and write research objectives for one of the four research thrusts entitled "Spline operator-based analysis of Deep neural networks"

Topological deep learning, causal inference, and data-driven forecasting for subsurface multiscale multiphysics systems Awarded, 2022

- ▶ Funding Source: Department of Energy, PI: Maarten V. de Hoop
- ► Contributions: Led the effort to write the annual progress report

Mentoring Experience

Paul M. Mayer [link]2022 – PresentPhD Student, Rice UniversityHouston, TX, USA

Contributions: Advised on the development of methods and software for two projects and co-authored two papers (Luzi et al., 2024a; Mayer et al., 2024)

Rafael Orozco [link] 2020 – 2022

PhD Student, Georgia Institute of Technology

Atlanta, GA, USA

Contributions: Advised on the development of methods and software for main PhD thesis and co-authored four papers (Orozco et al., 2021, 2023b,c, 2024a)

Mi Zhang [link] 2019 – 2020

Visiting PhD Student, China University of Petroleum-Beijing

Atlanta, GA, USA

Contributions: Advised on the development of methods and software for a project and co-authored a paper (Zhang et al., 2020)

Teaching Experience

Rice University

Department of Computational Applied Mathematics & Operations Research

Houston, TX, USA

► Numerical Analysis
Substitute Instructor

Fall 2024

► Numerical Analysis I Substitute Instructor (18 lectures) Fall 2022

Atlanta, GA, USA

Georgia Institute of Technology

School of Computational Science and Engineering

► Computational Foundations of Machine Learning Spring 2022

Teaching Assistant

► Imaging with Data-Driven Models

Fall 2019

Teaching Assistant

► Numerical Analysis I

Teaching Assistant

Fall 2018

Sharif University of Technology Tehran, Iran

Department of Electrical Engineering

► Digital Signal Processing

Spring 2011

Teaching Assistant

► Signals and Systems

Teaching Assistant

Spring 2011

► Linear Algebra

Teaching Assistant

Spring 2010

► Electrical Engineering: Principles and Laboratory Fall 2009

Talks

Invi	ted Talks	
T22.	CNRS, Université Montpellier Low-cost uncertainty quantification for large-scale inverse problems RhEoVOLUTION Group (Dr. Andréa Tommasi)	January 2023 Virtual oral presentation
T21.	Workshop on Subsurface Uncertainty Description and Estimation Reliable amortized variational inference with conditional normalizing flows v physics-based latent distribution correction International Meeting for Applied Geoscience & Energy	August 2022 ia Oral presentation
T20.	Intelligent illumination of the Earth Workshop Fast and reliability-aware seismic imaging with conditional normalizing flows King Abdullah University of Science and Technology	June 2021 Virtual oral presentation
T19.	Advances in Seismic Imaging and Inversion Mini-symposium Unsupervised data-guided uncertainty analysis in imaging and horizon tracking The 3rd Annual Meeting of the SIAM Texas—Louisiana Section	October 2020 Virtual oral presentation
Con	tributed Talks	
T18.	International Conference on Machine Learning Unearthing InSights into Mars: Unsupervised source separation with limited	July 2023 data Poster presentation
T17.	Symposium on Advances in Approximate Bayesian Inference Refining amortized posterior approximations using gradient-based summary statistics	July 2023 Poster presentation
T16.	Geo-Mathematical Imaging Group Partners Meeting, Rice University Martian time-series unraveled: A multi-scale nested approach with factorial variational autoencoders	May 2023 Oral presentation
T15.	Geo-Mathematical Imaging Group Partners Meeting, Rice University Unearthing InSights into Mars: Unsupervised source separation with limited	May 2023 data Oral presentation
T14.	International Meeting for Applied Geoscience & Energy Velocity continuation with Fourier neural operators for accelerated uncertaint quantification	August 2022 y Oral presentation
T13.	Chrome Media Team, Google Low-bitrate speech coding with Transformers	December 2021 Virtual oral presentation
T12.	ML4SEISMIC Partners Meeting, Georgia Institute of Technology Multifidelity conditional normalizing flows for physics-guided Bayesian inference	November 2021 Virtual oral presentation
T11.	ML4SEISMIC Partners Meeting, Georgia Institute of Technology Uncertainty quantification in imaging and automatic horizon tracking—A Bayesian deep-prior based approach	November 2021 Virtual oral presentation
T10.	Society of Exploration Geophysicists International Exposition and Annual Learning by example: Fast reliability-aware seismic imaging with	Meeting September 2021 Virtual oral presentation

T9. **Symposium on Advances in Approximate Bayesian Inference** Preconditioned training of normalizing flows for variational

normalizing flows

[video]

January 2021 Prerecorded short oral presentation

	[video]	
T8.	European Association of Geoscientists & Engineers Annual Conference & E	Exhibition December
	A deep-learning based Bayesian approach to seismic imaging and uncertainty quantification	Virtual oral presentation
T7.	Society of Exploration Geophysicists International Exposition and Annual Muncertainty quantification in imaging and automatic horizon tracking—A Bayesian deep-prior based approach [video]	Meeting October 2020 Virtual oral presentation
T6.	Society of Exploration Geophysicists International Exposition and Annual Meak deep priors for seismic imaging [video]	Meeting October 2020 Virtual oral presentation
T5.	Society of Exploration Geophysicists Student Chapter, Georgia Tech A deep-learning based Bayesian approach to seismic imaging and uncertainty quantification	February 2020 Oral presentation
T4.	HotCSE Seminar, CSE Department, Georgia Institute of Technology Learned imaging with constraints and uncertainty quantification	November 2019 Oral presentation
Т3.	Society of Exploration Geophysicists International Exposition & Annual Medical Deep-learning based ocean bottom seismic wavefield recovery	eeting September 2019 Oral presentation
T2.	Society of Exploration Geophysicists International Exposition & Annual Me Surface-related multiple elimination with deep learning	eeting September 2019 Oral presentation
T1.	Society of Exploration Geophysicists International Exposition & Annual Medical Deep convolutional neural networks in prestack seismic—two exploratory examples	Poster presentation
Pro	fessional Service	
Edi	torial Service	
	Acta Geophysica, Associate Editor	2024 – Present
	Applied Geophysics section	
-	ournal of Mathematics, Guest Editor Special issue on Applied Mathematics in Inverse Problems and Uncertainty Qua	2023 – Present antification
	ference Organization	
► I	nternational Meeting for Applied Geoscience & Energy, Session Chair	2022
Tecl	nnical Program Committee Member and Reviewer	
► A	Annual AAAI Conference on Artificial Intelligence	2025
► A	Artificial Intelligence and Statistics Conference (AISTATS)	2024 - 2025
▶ I	nternational Conference on Learning Representations (ICLR)	2024 - 2025
▶ 1	Neural Information Processing Systems (NeurIPS)	2023 - 2024
► A	Advances in Approximate Bayesian Inference (AABI)	2023 - 2024
	Structured Probabilistic Inference & Generative Modeling (ICML workshop)	2023 - 2024
	nternational Conference on Machine Learning (ICML)	2024
	nternational Speech Communication Association (Interspeech)	2023
	Deep Generative Models for Health (NeurIPS workshop)	2023
-	nternational Meeting for Applied Geoscience & Energy	2023

Journal Reviewer

- ▶ IEEE Transactions on Neural Networks and Learning Systems
- ► IEEE Geoscience and Remote Sensing Letters
- ▶ IEEE Transactions on Geoscience and Remote Sensing
- ▶ Notices of the American Mathematical Society (AMS)
- ► Remote Sensing
- ▶ Journal of Geophysical Research Solid Earth
- ► Geophysical Prospecting
- ► Geophysics
- ▶ Geosciences
- ► Entropy

Industry Research Experience

Google August 2021 - December 2021 Research Intern (cf. A. Siahkoohi et al. (2022b)) San Francisco, CA, USA

Chrome Media Team

Selected Media Coverage

AI Appears to Be Slowly Killing Itself August 2024 **Futurism**

[link]

When A.I.'s Output Is a Threat to A.I. Itself August 2024

The New York Times

[link]

Breaking MAD: Generative AI could break the internet July 2024

Rice News, Rice University

[link]

'Cesspool of AI crap' or smash hit? LinkedIn's AI-powered collaborative articles offer April 2024

a sobering peek at the future of content

Fortune [link]

AI's 'mad cow disease' problem tramples into earnings season April 2024

Yahoo!finance

[link]

'Mad' AI risks destroying the Information Age February 2024

The Telegraph

When AI Is Trained on AI-Generated Data, Strange Things Start to Happen August 2023

Futurism

[link]

Episode 194: Improving integration in machine learning workflows

July 2023

Seismic Soundoff Podcast, Society of Exploration Geophysicists

Training AI With Outputs of Generative AI Is Mad July 2023

CDOtrends

[link]

AIs trained on AI-generated images produce glitches and blurs NewScientist [link]	July 2023
Scientists make AI go crazy by feeding it AI-generated content TweakTown [link]	July 2023
AI Loses Its Mind After Being Trained on AI-Generated Data Futurism [link]	July 2023
Generative AI Goes 'MAD' When Trained on AI-Created Data Over Five Times Tom's Hardware [link]	July 2023
Group Brings Seismic Imaging to Climate-Change Conversations and Beyond College of Computing News, Georgia Institute of Technology [link]	August 2022