

ZIYI (FRANCIS) YIN

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EDUCATION

Georgia Institute of Technology

Doctor of Philosophy in Computational Science and Engineering

Advisor: [Prof. Felix J. Herrmann](#)

Group: [Seismic Laboratory for Imaging and Modeling](#)

Atlanta, GA

Aug 2019 - Present

Emory University

Bachelor of Science in Mathematics and Computer Science

Advisor: [Prof. James G. Nagy](#)

Atlanta, GA

May 2019

RESEARCH INTERESTS

Machine Learning, PDE-constrained Optimization, Inverse Problems, Computational Imaging Applications on Time-lapse Seismic Monitoring of Carbon Capture and Storage (CCS)

RESEARCH EXPERIENCE

Georgia Institute of Technology

Graduate Research Assistant

Work on wave-equation based imaging and optimization, compressive sensing, uncertainty quantification, physics-informed neural networks, coupling of multi-physics systems, loop unrolling, preconditioning

Atlanta, GA

Aug 2019 - Present

Emory University

Undergraduate Honors Research

Work as undergraduate researcher on X-ray computed tomography imaging, image reconstruction and segmentation, regularization methods on ill-posed inverse problems

Atlanta, GA

May 2018 - May 2019

LEADERSHIP EXPERIENCE

Georgia Institute of Technology Geophysical Society

President

Secretary

Co-organize academic seminars, industry workshops and panels; present activities on SEG annual meeting

Atlanta, GA

Oct 2020 - Present

Nov 2019 - Oct 2020

Office of Undergraduate Studies, Emory University

Academic Fellow

Co-organize freshman orientations; mentor and support 7 first-year international students

Atlanta, GA

Aug 2018 - May 2019

TEACHING EXPERIENCE

Georgia Institute of Technology

Graduate Teaching Assistant for Exploration Seismology

Graduate Teaching Assistant for Iterative Methods for Systems of Equations

Atlanta, GA

Spring 2021

Fall 2020

Emory University

EPASS Peer Tutor for Probability and Statistics I & II

EPASS Peer Tutor for Foundation of Mathematics

Atlanta, GA

Fall 2018, Spring 2019

Summer & Fall 2018, Spring 2019

HONORS AND AWARDS

SEG/Chevron Student Leadership Symposium travel grant	Jun 2020
Graduate with Highest Honors (<i>summa cum laude</i>), Emory University	May 2019
Phi Beta Kappa Honor Society Membership	Apr 2019
Dean's List, Emory University	Aug 2017 - May 2019

SKILLS

Programming: Python, Julia, MATLAB, Java, C/C++, Bash, SQL, PHP, R, MPI, L^AT_EX

Language: English (Proficient), Chinese (Native), German (Elementary)

PUBLICATIONS

- Ziyi Yin, Mathias Louboutin, Felix J. Herrmann. “Compressive time-lapse seismic monitoring of carbon storage and sequestration with the joint recovery model”. Submitted to *Society of Exploration Geophysicists Annual Meeting 2021*. Apr 2021. URL: <https://arxiv.org/abs/2104.07173>.
- Mathias Louboutin, Ziyi Yin, Yijun Zhang, Felix J. Herrmann. “Sparsity promoting least-squares migration for long offset sparse OBN”. In: *SEG Workshop on Promises and Challenges with Sparse Node Ultra-long Offset OBN Acquisition in Imaging and Earth Model Building*. Oct 2020. URL: <https://slim.gatech.edu/content/sparsity-promoting-least-squares-migration-long-offset-sparse-obn>.
- Ziyi Yin, Rafael Orozco, Philipp A. Witte, Mathias Louboutin, Gabrio Rizzuti, Felix J. Herrmann. “Extended source imaging, a unifying framework for seismic & medical imaging”. In: *SEG Technical Program Expanded Abstracts 2020*. Sep 2020, page 3502-3506, DOI: [10.1190/segam2020-3426999.1](https://doi.org/10.1190/segam2020-3426999.1).
- Ziyi Yin. “Edge Detection and Enriched Subspaces”. *Undergraduate honors thesis for Bachelor of Sciences with Highest Honors*. May 2019. URL: <https://etd.library.emory.edu/concern/etds/7w62f916x?locale=en>.