

# ZIYI (FRANCIS) YIN

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## EDUCATION

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### 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

Aug 2017 - May 2019

### Beihang University

*Major: Mathematics*

Beijing, China

Sep 2015 - Jul 2017

## RESEARCH INTERESTS

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

## RESEARCH EXPERIENCE

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### Georgia Institute of Technology

*Graduate Research Assistant*

Work on wave-equation based imaging, uncertainty quantification, physics-informed neural networks, coupling of multiphysics systems, sparsity-promoting least-squares seismic migration and inversion, preconditioning, loop-unrolled imaging

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

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### 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

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### 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

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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

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Programming: Python, Julia, MATLAB, Java, C/C++, Bash, SQL, PHP, R, Assembly, L<sup>A</sup>T<sub>E</sub>X  
Language: English (Proficient), Chinese (Native), German (Elementary)

## PUBLICATIONS

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- Mathias Louboutin, Ziyi Yin, Yijun Zhang, et al. “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, et al. “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>.