

ZIYI (FRANCIS) YIN

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EDUCATION

Georgia Institute of Technology <i>Doctor of Philosophy in Computational Science and Engineering</i> Advisor: Prof. Felix J. Herrmann Group: Seismic Laboratory for Imaging and Modeling	Atlanta, GA Aug 2019 - Present
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Emory University <i>Bachelor of Science in Mathematics and Computer Science</i> Advisor: Prof. James G. Nagy	Atlanta, GA May 2019
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RESEARCH INTERESTS

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

RESEARCH EXPERIENCE

Georgia Institute of Technology <i>Graduate Research Assistant</i>	Atlanta, GA Aug 2019 - Present
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Emory University <i>Undergraduate Honors Research</i>	Atlanta, GA May 2018 - May 2019
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LEADERSHIP EXPERIENCE

Georgia Institute of Technology Geophysical Society <i>President</i> <i>Secretary</i>	Atlanta, GA Oct 2020 - Present Nov 2019 - Oct 2020
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Office of Undergraduate Studies, Emory University <i>Academic Fellow</i>	Atlanta, GA Aug 2018 - May 2019
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TEACHING EXPERIENCE

Georgia Institute of Technology Graduate Teaching Assistant for Seismic Monitoring CO2 Storage Head Graduate Teaching Assistant for Computational Data Analysis Graduate Teaching Assistant for Exploration Seismology Graduate Teaching Assistant for Iterative Methods for Systems of Equations	Atlanta, GA Spring 2022 Fall 2021 Spring 2021 Fall 2020
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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
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HONORS AND AWARDS

SEG Technical Program Registration grant	Aug 2021
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, \LaTeX
Language: English (Proficient), Chinese (Native), German (Elementary)

TALKS

- “Improved seismic monitoring of CO₂ sequestration with the weighted joint recovery model”. In: *ML4Seismic Partners Meeting 2021*. Nov 2021.
- “Compressive time-lapse seismic monitoring of carbon storage and sequestration with the joint recovery model”. In: *International Meeting for Applied Geoscience & Energy Session TL 1: “Advances and Case Studies”*. Sep 2021.
- “Low-cost & robust seismic monitoring of carbon storage and sequestration with the joint recovery model”. In: *Georgia Tech Geophysics Seminar*. Sep 2021.
- “Edge Detection and Enriched Subspaces”. In: *Undergraduate honors thesis defense*. April 2019.

PUBLICATIONS

- Yuxiao Ren, Philipp A. Witte, Ali Siahkoobi, Mathias Louboutin, Ziyi Yin, Felix J. Herrmann. “Seismic velocity inversion and uncertainty quantification using conditional normalizing flows”. In: *American Geophysical Union Annual Meeting 2021*. Dec 2021. URL: <https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/815883>.
- Felix J. Herrmann, Mathias Louboutin, Ziyi Yin, Philipp A. Witte. “Low-cost time-lapse seismic imaging of CCS with the joint recovery model”. In: *2021 IMAGE Workshop on Geophysical Challenges in Presalt Carbonates*. Oct 2021. URL: <https://slim.gatech.edu/content/low-cost-time-lapse-seismic-imaging-ccs-joint-recovery-model>.
- Ziyi Yin, Mathias Louboutin, Felix J. Herrmann. “Compressive time-lapse seismic monitoring of carbon storage and sequestration with the joint recovery model”. In: *First International Meeting for Applied Geoscience & Energy Expanded Abstracts*. Sep 2021. DOI: [10.1190/segam2021-3569087.1](https://doi.org/10.1190/segam2021-3569087.1).
- Mathias Louboutin, Ziyi Yin, Yijun Zhang, Felix J. Herrmann. “Sparsity promoting least-squares migration for long offset sparse OBN”. In: *2020 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. 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 at Emory University*. May 2019. URL: <https://etd.library.emory.edu/concern/etds/7w62f916x?locale=en>.