Stanford

Joseph Dalton Stitt

Ph.D. Student in Geophysics, admitted Autumn 2021

Bio

BIO

Joe Stitt joined the Stanford Earth Imaging Project (SEP) as a PhD student in the Fall of 2021. His current research involves creating machine learning-enhanced tools to advance seismic inversion methods, focusing on refining subsurface models for accurate resource localization and CO2 sequestration pathways while addressing the challenge of non-uniqueness in geophysical model estimations. Joe gained his interest in geophysics from a young age. He found his passion by attending his fathers football practices at Colorado School of Mines and being inspired by the engineers and geoscientists that played for the team. Joe currently hopes to continue to build on his traits of being an efficient team member and leader in the field and applying those skills to help his research group moving into the future.

HONORS AND AWARDS

- Outstanding Project (CS 230), Stanford Computer Science (January 2022)
- Deans List Honors (4.0), Colorado School of Mines (May 2018, December 2019 - May 2021)
- Michael R. and Patricia K. Starzer Scholarship Fund, Colorado School of Mines (August 2018 - August 2021)
- George T. Merideth Award for Early Leadership in Geophysical Engineering, Colorado School of Mines Geophysics (April 2021)

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- Member, Society of Exploration Geophysicists (2018 - present)
- President (2020-2021) and Member, Society of Student Geophysicists at Colorado School of Mines (2018 - 2021)
- Member, McBride Honors Program at Colorado School of Mines (2018 - 2021)
- Member, Tau Beta Pi (2018 - 2021)
- Member, Colorado School of Mines Culture Change Committee (2018 - 2019)

EDUCATION AND CERTIFICATIONS

- BSc, Colorado School of Mines , Geophysical Engineering (Major) McBride Honors Public Affairs (Minor) (2021)

SERVICE, VOLUNTEER, AND COMMUNITY WORK

- Personalized Learning Project Instructor (9/1/2019 - 10/1/2020)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Deep learning with applications in CO2 Sequestration and DAS

Teaching

COURSES

2024-25

- Geophysical Inverse Problems: ENERGY 283, GEOPHYS 281 (Win)

2023-24

- Environmental Soundings Image Estimation: GEOPHYS 211 (Aut)

Publications

PUBLICATIONS

- **Deep Dix: Enhancing interval velocity model estimation through adversarial regularization** *International Meeting for Applied Geoscience & Energy*
  Stitt, J., Clapp, R., Biondi, B.
  2023
- **Improving reservoir characterization and time-lapse seismic through joint inversion of PP-wave and PS-wave seismic data** *Interpretation*
  Tura, A., Simmons, J., Daneshvar, S., Copley, M., Stitt, J.
  2022: 1-43
- **PS-wave seismic data: A game changer in exploration and monitoring** *Second International Meeting for Applied Geoscience & Energy*
  Tura, A., Simmons, J., Daneshvar, S., Copley, M., Stitt, J.
  2022
- **Identifying geologic facies through seismic dataset-to-dataset transfer learning using convolutional neural networks** *Second International Meeting for Applied Geoscience & Energy*
  Stitt, J., Shugar, A., Wang, R.
  2022
- **Impact of joint PP/PS inversion on shear-impedance estimation for exploration and production** *First International Meeting for Applied Geoscience & Energy*
  Tura, A., Simmons, J., Copley, M., Daneshvar, S., Damasceno, A., Stitt, J.
  2021: 236-240