

Angela F. Gao

CONTACT INFORMATION	California Institute of Technology 1200 E. California Blvd M/C 305-16 Pasadena CA 91104	(609)240-2029 afgao@caltech.edu https://angelafigao.github.io/
RESEARCH INTERESTS	Computational imaging, computational photography, computer vision, image processing, inverse problems, and machine learning.	
EDUCATION	California Institute of Technology , Pasadena, CA, USA <i>Ph.D. in Computing and Mathematical Science</i> • Advisor: Katherine L. Bouman Carnegie Mellon University , Pittsburgh, PA, USA <i>B.S. in Electrical and Computer Engineering with University Honors, Additional Major in Biomedical Engineering</i> • GPA: 3.84 (overall), 3.88 (ECE), 3.90 (BME) • Dean's List: F16, F17, S18, F18	Oct 2019 - Present 2015 - 2018
RESEARCH EXPERIENCE	California Institute of Technology - Pasadena, CA <i>Graduate Research Assistant with Dr. Katherine Bouman</i> National Institutes of Health, NHLBI - Bethesda, MD <i>Summer Research Intern mentored by Dr. Peter Kellman and Dr. Hui Xue</i> Carnegie Mellon University - Pittsburgh, PA <i>Undergraduate Researcher mentored by Dr. Aswin Sankaranarayanan</i> École Polytechnique Fédérale de Lausanne - Lausanne, Switzerland <i>Summer@EPFL Intern mentored by Dr. Elisa Celis</i> Princeton University - Princeton, NJ <i>Summer Research Intern mentored by Dr. Adam Finklestein and Dr. Szymon Rusinkiewicz</i>	2019 - present Summer 2019 2018-2019 Summer 2018 Summer 2017
HONORS AND AWARDS	Graduate Research Fellowship Program Honorable Mention National Science Foundation Graduate Research Fellowship Program Honorable Mention National Science Foundation Mary Louise Brown Graham Memorial Scholarship Carnegie Mellon University	2020 2019 2018
CONFERENCE PUBLICATIONS	* denotes equal contribution AF Gao , JC Castellanos, Y Yue, ZE Ross, KL Bouman. "DeepGEM: Generalized Expectation-Maximization for Blind Inversion". <i>Proceedings of the 35th Conference on Neural Information Processing Systems (NeurIPS)</i> , 2021. (Selected for oral presen-	

tation at AGU 2021).

AF Gao, B Rasmussen, P Kulits, EL Scheller, R Greenberger, BL Ehlmann. “Generalized Unsupervised Clustering of Hyperspectral Images of Geological Targets in the Near Infrared”. *Proceedings of the Conference and Workshop of Computer Vision and Pattern Recognition: Perception Beyond the Visible Spectrum Workshop*, 2021. (Invited for oral presentation at AGU 2021).

JOURNAL PUBLICATIONS

Y Yang*, **AF Gao***, JC Castellanos*, ZE Ross, K Azzizadenesheli, and RW Clayton. “Seismic wave propagation and inversion with Neural Operators,” *The Seismic Record*, 2021.

TEACHING EXPERIENCE

Teaching Assistant

CS 101: Projects in Machine Learning, Caltech	Fall 2021
18-290: Signals and Systems, CMU	Fall 2018
18-290: Signals and Systems, CMU	Spring 2018
15-151: Mathematical Foundations of Computer Science, CMU	Fall 2017
21-127: Concepts of Mathematics, CMU	Spring 2018
21-127: Concepts of Mathematics, CMU	Fall 2017

TALKS AND WORKSHOPS

Deep Expectation-Maximization for Joint Source-Structure Inversion, Caltech Seismological Laboratory Seminar, Pasadena, CA. November 2021
DeepGEM: Generalized EM for Blind Seismic Tomography, Beyond Limits, Pasadena, CA. June 2021
KISS Study on "Beyond Interstellar: Extracting Science from Black Hole Images" Part 2, Pasadena, CA, March 2021
KISS Study on "Beyond Interstellar: Extracting Science from Black Hole Images" Part 1, Pasadena, CA, October 2019

PROJECTS

Baby Got Track: Baby Health Monitoring Suite	2018
ECE Capstone Design Project, Carnegie Mellon University.	
Medtronic Positional Stabilizer for Image Guidance Trackers	2017–2018
Biomedical Engineering Senior Project, Carnegie Mellon University, Medtronic Inc.	

INDUSTRY EXPERIENCE

Morsel - New York, New York	2016
<i>Software Engineering Intern</i>	

ACADEMIC SERVICE

Committee , Engineering and Applied Sciences Division Committee on Diversity, Inclusion, and Equity, Caltech	2021-Present
Committee , Computing and Mathematical Sciences Steering Committee on Diversity, Inclusion, and Equity, Caltech	2020-Present
Steering Committee , Women in CMS, Caltech	2019-Present
President , Biomedical Engineering Society, Carnegie Mellon University	2018–2019
Social Chair , Biomedical Engineering Society, Carnegie Mellon University	2017–2018

OUTREACH

Caltech Y Rise Tutoring , California Institute of Technology, Pasadena, CA	2019-2021
Alpha Phi Omega , Carnegie Mellon University, Pittsburgh, PA	2016-2019
250+ volunteer hours	