Abigail K. Julian

Emory University

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EDUCATION

Emory University   Atlanta, GA
PhD Candidate, Computer Science and Informatics
Graduate Research Fellow, National Science Foundation
Women in Natural Sciences Fellow, Laney Graduate School
Advisor: Dr. Lars Ruthotto

Vanderbilt University   Nashville, TN
B.A., Mathematics (Honors Track), Computer Science, Spanish   Spring 2019
Magna Cum Laude

RESEARCH INTERESTS

Optimization and inverse problems, particularly with application to large-scale problems in medical imaging.

CONFERENCE PROCEEDINGS, PRESENTATIONS, & POSTERS

Conference Proceedings
Fisher, D, Markert, E., Roberts, A., & Varma, K. (2019). "Region Radio: An AI that Finds and Tells Stories about Places". *Proceedings of the 10th International Conference on Computational Creativity* (pp. 336-340).

Conference Presentations
Fast and Trainable Susceptibility Artifact Correction for EPI-MRI. *SIAM Imaging Science 2022.* March 25, 2022. Online.

Towards Fast Bi-Level Optimization for EPI-MRI Susceptibility Artifact Correction and DTI. *SIAM Mathematics for Data Science 2022.* September 28, 2022. San Diego.

epic4D: Efficient Echo-Planar MRI Distortion Correction for Four-Dimensional Diffusion Tensor Images. *AMS Sectional Meeting.* March 18, 2023. Atlanta.

Efficient Echo-Planar MRI Distortion Correction for Three-Dimensional and Four-Dimensional Images. *SIAM Optimization 2023.* May 31, 2023. Seattle.

Posters
A. Rees, M. Naguib, A. Roberts, and B. Pearson. "Using Anki to Provide Real-Time Learning Feedback in First-Year Anatomy." Presented at *AMA ChangeMedEd 2019.* September 2019.

E. Markert, A. Roberts, K. Varma, and D.H. Fisher. "Region Radio: An Artificially Intelligent Story Teller about Conservationism." Presented at *2018 Doctoral Consortium on Computational Sustainability.* September 2018.

TEACHING EXPERIENCE

Instructor of Record, Introduction to Computer Science II   Spring 2020, 2022, 2023; Fall 2023
Emory University, CS 171

Graduate Teaching Assistant, Introduction to Computer Science   Fall 2019, 2021
Emory University, CS 170

Undergraduate Teaching Assistant, Survey of Calculus   Fall 2018, Spring 2019
Vanderbilt University, MATH 1100

HONORS & AWARDS

Outstanding Graduate Teaching Associate, Natural Sciences	2023
Graduate Research Fellow, National Science Foundation	2021-2024
Women in Natural Sciences Fellow, Emory University	2019-2024
Dean's List, Vanderbilt University	8 Semesters, 2015-2019

ACTIVITIES & SERVICE

University Relations Officer, Laney Graduate Student Council	Fall 2023 – Spring 2024
Computer Science and Informatics Program Student Ambassador	2019-Present
Student Member, Society for Industrial and Applied Mathematics	2020-Present
Member, Center for the Integration of Research, Teaching, and Learning	2019-Present
Computer Science and Informatics Curriculum Task Force Member	Fall 2020

SKILLS

Programming Languages
Python (including NumPy and PyTorch), C++, C#, C, SQL, Java, MATLAB

Foreign Languages
Fluent in Spanish, Elementary French

Training and Certificates
"Advancing Learning Through Evidence-Based Teaching" certificate with distinction (Center for the Integration of Research, Teaching, and Learning, Spring 2020)