

# Jacob Reinhold

## Curriculum Vitae

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### Education

**Johns Hopkins University**  
Ph.D., Electrical Engineering

Expected May 2022

**Johns Hopkins University**  
M.S.E., Electrical Engineering

December 2019

**The University of Texas at Austin**  
B.S., Electrical Engineering

December 2016

### Academic and Research Positions

**Graduate Research Assistant, Johns Hopkins University**  
Department of Electrical and Computer Engineering  
Image Analysis and Communication Laboratory  
*Faculty advisor: Jerry L. Prince*

Jan. 2018 – Present

**Graduate Research Assistant, Johns Hopkins University**  
Department of Electrical and Computer Engineering  
Neural Systems Analysis Laboratory  
*Faculty advisor: Archana Venkataraman*

Aug. 2017 – Jan. 2018

**Undergraduate Research Assistant, The University of Texas at Austin**  
Department of Biomedical Engineering  
Biomedical Informatics Lab  
*Faculty advisor: Mia Markey*

May 2016 – Aug. 2016

### Under Review

1. J. Reinhold, A. Carass, J. Prince. "A Structural Causal Model for MR Images of Multiple Sclerosis." arXiv:2103.03158, (2021)

### Journal Articles

1. A. Carass, S. Roy, A. Gherman, J. Reinhold, A. Jesson, T. Arbel, O. Maier, H. Handels, M. Ghafoorian, B. Platel, A. Birenbaum, H. Greenspan, D. Pham, C. Crainiceanu, P. Calabresi, J. Prince, W. Roncal, R. Shinohara, I. Oguz. "Evaluating White Matter Lesion Segmentations with Refined Sørensen-Dice Analysis." Scientific Reports 10.1 (2020): 1-19.
2. B. Dewey, C. Zhao, J. Reinhold, A. Carass, K. Fitzgerald, E. Sotirchos, S. Saidha, J. Oh, D. Pham, P. Calabresi, P. van Zijl, J. Prince. "DeepHarmony: A deep learning approach to contrast harmonization across scanner changes." Magnetic resonance imaging (2019).
3. G. Wen, H. Chang, J. Reinhold, J. Lo, M. Markey. "Virtual assessment of stereoscopic viewing of digital breast tomosynthesis projection images." Journal of Medical Imaging 5, no. 1 (2018): 015501.

## Conference Proceedings

1. L. Zuo, B. Dewey, A. Carass, Y. He, M. Shao, J. Reinhold, J. Prince. "Synthesizing Realistic Brain MR Images with Noise Control." International Workshop on Simulation and Synthesis in Medical Imaging (MICCAI SASHIMI 2020). Springer, Cham, 2020. *To appear*.
2. J. Reinhold, Y. He, Y. Chen, D. Gao, J. Lee, J. Prince, A. Carass. "Validating uncertainty in medical image translation." 2020 IEEE 17th International Symposium on Biomedical Imaging (ISBI 2020). IEEE, 2020.
3. J. Reinhold, Y. He, Y. Chen, D. Gao, J. Lee, J. Prince, A. Carass. "Finding novelty with uncertainty." Medical Imaging 2020: Image Processing, International Society for Optics and Photonics, 2020..
4. J. Sager, R. Shankar, J. Reinhold, A. Venkataraman, "VESUS: A crowd-annotated database to study emotion production and perception in spoken english." Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH. 2019.
5. J. Reinhold, B. Dewey, A. Carass, J. Prince. "Evaluating the impact of intensity normalization on MR image synthesis." In Medical Imaging 2019: Image Processing, vol. 10949, p. 109493H. International Society for Optics and Photonics, 2019.
6. J. Reinhold, G. Wen, J. Lo, M. Markey. "Lesion detectability in stereoscopically viewed digital breast tomosynthesis projection images: a model observer study with anthropomorphic computational breast phantoms." In Medical Imaging 2017: Image Perception, Observer Performance, and Technology Assessment, vol. 10136, p. 101360W. International Society for Optics and Photonics, 2017.
7. T. Gaussiran, R. Calfas, A. Fleischmann, D. Munton, D. Rainwater, and J. Reinhold, "HF Signal Geolocation vs. Ionospheric Structure: An Engineering Solution Approach", Ionospheric Effects Symposium, May 2015, Alexandria, VA. Presented by: D. Rainwater.

## Honors and Awards

NIH NIBIB Travel Grant – ISBI 2020	2020
Ferdinand Hamburger Jr. Fellowship	2017–2018
Raytheon-SVA Scholarship	2016
Frederic and Julia Weigl Scholarship	2016
Jean Perkins Combat Veteran Scholarship	2015
Jerry A. and Martha Lel Hawkins Endowed Scholarship	2014–2015
Nominated for Texas Exes Presidential Leadership Award	2016
Member of Eta Kappa Nu – Electrical Engineering Honor Society	

## Professional Positions

Engineering Scientist Associate, Applied Research Laboratories	Nov. 2014 – Jun. 2017
Co-op Engineer, Advanced Micro Devices, Inc.	May 2014 – Aug. 2014
Sergeant, United States Marine Corps Reserves	Jan. 2010 – Jan. 2018