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Employment History

- 2017 - 2020 **Research Engineer** Benz Research & Development, Sarasota, FL
- 2014 - 2015 **Corps Member** Teach For America, New York, NY

Education

- 2020 **Doctor of Philosophy, Cornell University** Electrical & Computer Engineering
- 2016 - 2020 **Master of Engineering, University of Florida** Chemical Engineering
3D reconstruction algorithms for X-ray tomography of printed circuit board samples
- 2010 - 2014 **Bachelor of Science, West Virginia Wesleyan College** Chemistry
Summa Cum Laude, WV-INBRE Researcher

Personal


Licensed amateur radio operator (KC0AGR), marathon runner, and guitarist.

Research Publications

Selected Articles

- 1 A. G. Roberts, H. M. Luu, M. Şişman, *et al.*, "Synthetic generation and latent projection denoising of rim lesions in multiple sclerosis," *Synthetic Data for Computer Vision Workshop @ CVPR 2025*, Jun. 2025.
🔗 URL: <https://openreview.net/forum?id=wFkiqB5spT>.
- 2 A. G. Roberts, D. Romano, M. Şişman, *et al.*, "Maximum spherical mean value filtering for whole-brain QSM," *Magnetic Resonance in Medicine*, vol. 91, no. 4, pp. 1586–1597, Jan. 2024, ISSN: 1522-2594. 🔗 DOI: 10.1002/mrm.29963.
- 3 A. G. Roberts, J. Zhang, C. Tozlu, *et al.*, "Radiomic prediction of Parkinson's disease deep brain stimulation surgery outcomes using quantitative susceptibility mapping and label noise compensation," *Neuromodect Journal*, Oct. 2024, ISSN: 2996-8801. 🔗 DOI: 10.31641/nmj-ogms6387.
- 4 A. V. Dimov, J. Li, T. D. Nguyen, *et al.*, "QSM throughout the body," *Journal of Magnetic Resonance Imaging*, vol. 57, no. 6, pp. 1621–1640, 2023. 🔗 DOI: 10.1002/jmri.28624.

Conference Proceedings

- 1 A. G. Roberts, J. Zhang, P. Spincemaille, T. Nguyen, and Y. Wang, "Radiomic prediction of Parkinson's disease deep brain stimulation surgery motor and nonmotor outcomes using quantitative susceptibility mapping," in *Magnetic Resonance Phase, Susceptibility, and Electrical Properties Mapping*, 2024.
- 2 A. G. Roberts, A. Dimov, T. Nguyen, P. Spincemaille, and Y. Wang, "Inhomogeneity-informed field-fitting for quantitative susceptibility mapping (if-QSM)," in *Proceedings of the 33rd Annual Meeting of ISMRM, Singapore*, 2024.
- 3 A. G. Roberts, M. Sisman, A. Dimov, *et al.*, "Whole brain source separation for neurodegeneration," in *Proceedings of the 33rd Annual Meeting of ISMRM, Singapore*, 2024.
- 4 A. G. Roberts, J. Zhang, H. Kim, *et al.*, "Radiomics for deep brain stimulation outcome prediction using quantitative susceptibility mapping (RadDBS-QSM)," in *Proceedings of the 33rd Annual Meeting of ISMRM, Singapore*, 2024.
- 5 A. G. Roberts, J. Zhang, D. Romano, *et al.*, "QRadAR: A toolbox for quantitative magnetic resonance radiomics analysis and reliability," in *Proceedings of the 33rd Annual Meeting of ISMRM, Singapore*, 2024.
- 6 A. Roberts, P. Spincemaille, T. Nguyen, and Y. Wang, "Whole brain spherical mean value filtering for shadow reduction in quantitative susceptibility mapping," in *Proceedings of the 32nd Annual Meeting of ISMRM, Toronto, Canada*, 2023.
- 7 A. G. Roberts, I. Kovanlikaya, B. Kopell, P. Spincemaille, T. Nguyen, and Y. Wang, "Improved visualization of the medial medullary lamina via phase priors in quantitative susceptibility mapping," in *Proceedings of the 32nd Annual Meeting of ISMRM, Toronto, Canada*, 2023.
- 8 A. G. Roberts, J. Zhang, P. Spincemaille, T. Nguyen, and Y. Wang, "Choice of architecture in 3d super-resolution of quantitative susceptibility maps," in *Proceedings of the 32nd Annual Meeting of ISMRM, Toronto, Canada*, 2023.
- 9 A. Roberts, P. Spincemaille, I. Kovanlikaya, J. A. Tsiouris, T. Nguyen, and Y. Wang, "SWISer: Multi-field susceptibility-weighted images super-resolution," in *Proceedings of the 31st Annual Meeting of ISMRM, London, England*, 2022.
- 10 A. G. Roberts, J. Zhang, P. Spincemaille, T. Nguyen, and Y. Wang, "SuperQ: 3d super-resolution of quantitative susceptibility maps," in *Proceedings of Magnetic Resonance Phase, Susceptibility, and Electrical Properties Mapping*, 2022.
- 11 A. G. Roberts, P. Spincemaille, T. Nguyen, I. Kovanlikaya, and Y. Wang, "MEDI-FM: Field map error guided regularization for shadow reduction in quantitative susceptibility mapping," in *Proceedings of the 31st Annual Meeting of ISMRM, London, England*, 2022.
- 12 A. Roberts, P. Spincemaille, T. D. Nguyen, and Y. Wang, "MEDI-d: Downsampled morphological priors for shadow reduction in quantitative susceptibility mapping," in *Proceedings of the 30th Annual Meeting of ISMRM*, 2021.
- 13 A. Roberts, J. True, N. T. Jessurun, and D. N. Asadizanjani, "An overview of 3d X-Ray reconstruction algorithms for PCB inspection," in *ISTFA 2020: 46th International Symposium for Testing and Failure Analysis*, ASM International, Dec. 2020.  DOI: 10.31399/asm.cp.istfa2020p0188.
- 14 A. Roberts, D. Russell, and B. Anthony, "Systems genomics in alcohol exposed dorsal root ganglia neuronal stem cells of adult rats," in *Proceedings of the West Virginia Academy of Sciences*, 2014.

References

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