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Work Experience

2021 - present	Research Associate Professor
	University of Washington Department of Psychology
2021 - present	Adjunct Associate Professor
	Paul Allen School of Computer Science & Engineering
2020 - 2021	Research Assistant Professor
	University of Washington Department of Psychology
2015-2020	Senior Data Scientist
	University of Washington eScience Institute
2011-2015	Postdoctoral Researcher
	Stanford University
2010-2011	Postdoctoral Researcher
	University of California, Berkeley
2002-2003	Research Student
	Humboldt-Universität zu Berlin

Education

2010 **Ph.D.** Neuroscience, University of California, Berkeley

Advisor: Michael Silver, Thesis: "Neural mechanisms of perceptual learning"

2005 M.A. (Summa cum Laude) Cognitive Psychology, Hebrew University of Jerusalem

Advisor: Merav Ahissar, Thesis: "Interactions of cognitive and auditory abilities in the blind"

2002 B.Sc. (Cum Laude) Biology and Psychology, Hebrew University of Jerusalem

Peer-reviewed journal publications

Google Scholar, total citations: 8,255, h-index: 42

- * indicates equal contribution
 - 81. **Rokem, A.** (2024). Ten simple rules for scientific code review. *PLoS Computational Biology*, in press
 - 80. Corrigan, N., **Rokem, A.**, and Kuhl, P. (2024). COVID-19 lockdown effects on adolescent brain structure suggest accelerated maturation that is more pronounced in females than in males. *Proceedings of the National Academy of Sciences*, in press
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- 78. Takemura, H., Kruper, J., Miyata, T., and **Rokem, A** (2024). Tractometry of human visual white matter pathways in health and disease. *Magentic Resonance in Medical Science*, 23(3):316–340
- 77. **Rokem, A*** and Benson, N. C.* (2024). Hands-on neuroinformatics education at the crossroads of online and in-person: lessons learned from neurohackademy. *Neuroinformatics*
- 76. Roy, E., Van Rinsveld, A., Nedelec, P., Richie-Halford, A., Rauschecker, A. M., Sugrue, L. P., **Rokem, A**, McCandliss, B. D., and Yeatman, J. D. (2024b). Educational environment and white matter development in early adolescence. *Developmental Cognitive Neuroscience*, 67:101386
- 75. Kruper, J., Richie-Halford, A., Benson, N. C., Caffarra, S., Owen, J., Wu, Y., Egan, C., Lee, A. Y., Lee, C. S., Yeatman, J. D., **Rokem, A**, and UK Biobank Eye and Vision Consortium (2024b). Convolutional neural network-based classification of glaucoma using optic radiation tissue properties. *Communications Medicine*, 4(1):72
- 74. Pogoncheff, G., Hu, Z., Rokem, A, and Beyeler, M. (2024). Explainable machine learning predictions of perceptual sensitivity for retinal prostheses. *Journal of Neural Engineering*, 21:026009
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- 67. Kruper, J., Benson, N. C., Caffarra, S., Owen, J., Wu, Y., Lee, A. Y., Lee, C. S., Yeatman, J. D., and **Rokem, A** (2023). Optic radiations representing different eccentricities age differently. *Human Brain Mapping*, 44:3123–3135
- 66. Richie-Halford, A., Cieslak, M., Ai, L., Caffarra, S., Covitz, S., Franco, A. R., Karipidis, I. I., Kruper, J., Milham, M., Avelar-Pereira, B., Roy, E., Sydnor, V. J., Yeatman, J. D., Satterthwaite, T.D.*, and **Rokem, A*** (2022). An analysis-ready and quality controlled resource for pediatric brain white-matter research. *Scientific Data*, 9(1):1–27
- 65. Yücel, E. I., Sadeghi, R., Kartha, A., Montezuma, S. R., Dagnelie, G., **Rokem, A**, Boynton, G. M., Fine, I., and Beyeler, M. (2022). Factors affecting two-point discrimination in Argus II patients. *Frontiers in Neuroscience*, 16:901337
- 64. Graham, S., **Rokem**, **A**, , and Lambers, J. H. R. (2022). forestexplorR: an R package for the exploration and analysis of stem-mapped forest stand data. *Ecography*, 2022(10):e06223
- 63. Fadnavis, S., Endres, S., Wen, Q., Wu, Y.-C., Cheng, H., Koudoro, S., Rane, S., **Rokem, A**, and Garyfallidis, E. (2021). Bifurcated topological optimization for IVIM. *Frontiers in Neuroscience*, 15
- 62. Graham, S. I., **Rokem, A.**, Fortunel, C., Kraft, N. J. B., and Lambers, J. H. R. (2021). Regularized regression: A new tool for investigating and predicting tree growth. *Forests*, 12(9):1283
- 61. Levitis, E., van Praag, C. D. G., Gau, R., Heunis, S., DuPre, E., Kiar, G., Bottenhorn, K. L., Glatard, T., Nikolaidis, A., Whitaker, K. J., Mancini, M., Niso, G., Afyouni, S., Alonso-Ortiz, E., Appelhoff, S., Arnatkeviciute, A., Atay, S. M., Auer, T., Baracchini, G., Bayer, J. M. M., Beauvais, M. J. S., Bijsterbosch, J. D., Bilgin, I. P., Bollmann, S., Bollmann, S., Botvinik-Nezer, R., Bright, M. G., Calhoun, V. D., Chen, X., Chopra, S., Chuan-Peng, H., Close, T. G., Cookson, S. L., Craddock, R. C., De La Vega, A., De Leener, B., Demeter, D. V., Di Maio, P., Dickie, E. W., Eickhoff, S. B., Esteban, O., Finc, K., Frigo, M., Ganesan, S., Ganz, M., Garner, K. G., Garza-Villarreal, E. A., Gonzalez-Escamilla, G., Goswami, R., Griffiths, J. D., Grootswagers, T., Guay, S., Guest, O., Handwerker, D. A., Herholz, P., Heuer, K., Huijser, D. C., Iacovella, V., Joseph, M. J. E., Karakuzu, A., Keator, D. B., Kobeleva, X., Kumar, M., Laird, A. R., Larson-Prior, L. J., Lautarescu, A., Lazari, A., Legarreta, J. H., Li, X.-Y., Lv, J., Mansour L., S., Meunier, D., Moraczewski, D., Nandi, T., Nastase, S. A., Nau, M., Noble, S., Norgaard, M., Obungoloch, J., Oostenveld, R., Orchard, E. R., Pinho, A. L., Poldrack, R. A., Qiu, A., Raamana, P. R., Rokem A., Rutherford, S., Sharan, M., Shaw, T. B., Syeda, W. T., Testerman, M. M., Toro, R., Valk, S. L., Van Den Bossche, S., Varoquaux, G., Váša, F., Veldsman, M., Vohryzek, J., Wagner, A. S., Walsh, R. J., White, T., Wong, F.-T., Xie, X., Yan, C.-G., Yang, Y.-F., Yee, Y., Zanitti, G. E., Van Gulick, A. E., Duff, E., and Maumet, C. (2021). Centering inclusivity in the design of online conferences—An OHBM-Open Science perspective. GigaScience, 10(8)
- 60. Caffarra, S., Joo, S. J., Bloom, D., Kruper, J., **Rokem, A**, and Yeatman, J. D. (2021). Development of the visual white matter pathways mediates development of electrophysiological responses in visual cortex. *Hum. Brain Mapp.*, 42(17):5785–5797
- 59. Kiar, G., Chatelain, Y., de Oliveira Castro, P., Petit, E., **Rokem, A**, Varoquaux, G., Misic, B., Evans, A. C., and Glatard, T. (2021). Numerical uncertainty in analytical pipelines lead to impactful variability in brain networks. *PLoS One*, 16(11):e0250755

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- 56. Henriques, R., Correia, M., Maralle, M., Huber, E., Kruper, J., Koudoro, S., Yeatman, J. D., Garyfallidis, E., and **Rokem, A.** (2021). Diffusion Kurtosis Imaging in the Diffusion Imaging in Python project. *Frontiers in Human Neuroscience*, 15
- 55. Richie-Halford, A., Yeatman, J. D., Simon, N., and **Rokem, A.** (2021). Multidimensional analysis and detection of informative features in human brain white matter. *PLoS Computational Biology*, 17(6):1–24. PMC5838108[pmc]
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- 51. Richie Halford, A., Narayan, M., Simon, N., Yeatman, J., and **Rokem A.** (2021). Groupyr: Sparse Group Lasso in Python. *Journal of Open Source Software*, 6(58):3024
- 50. **Rokem, A** and Kay, K. (2020). Fractional ridge regression: a fast, interpretable reparameterization of ridge regression. *GigaScience*, 9(12)

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- 48. Bressler, D., **Rokem, A.**, and Silver, M. A. (2020). Slow endogenous fluctuations in cortical fMRI signals correlate with reduced performance in a visual detection task and are suppressed by spatial attention. *Journal of Cognitive Neuroscience*, 32:85–99
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- 33. Lee, C., Tyring, A., Deruyter, N., Wu, Y., **Rokem, A.**, and Lee, A. (2017). Deep-learning based, automated segmentation of macular edema in optical coherence tomography. *Biomed. Opt. Express*, 8(7):3440–3448
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- 15. Kay, K. N., Winawer, J., **Rokem, A.**, Mezer, A., and Wandell, B. A. (2013b). A two-stage cascade model of BOLD responses in human visual cortex. *PLoS Comput. Biol.*, 9(5):e1003079
- 14. Yoon, J. H., Sheremata, S. L., **Rokem, A.**, and Silver, M. A. (2013). Windows to the soul: vision science as a tool for studying biological mechanisms of information processing deficits in schizophrenia. *Front Psychol*, 4:681
- 13. **Rokem, A.** and Silver, M. A. (2013). The benefits of cholinergic enhancement during perceptual learning are long-lasting. *Front Comput Neurosci*, 7:66
- 12. Kosovicheva, A. A., Sheremata, S. L., **Rokem, A.**, Landau, A. N., and Silver, M. A. (2012). Cholinergic enhancement reduces orientation-specific surround suppression but not visual crowding. *Front Behav Neurosci*, 6:61
- 11. **Rokem, A.**, Landau, A. N., Prinzmetal, W., Wallace, D. L., Silver, M. A., and D'Esposito, M. (2012). Modulation of inhibition of return by the dopamine D2 receptor agonist bromocriptine depends on individual DAT1 genotype. *Cereb. Cortex*, 22(5):1133–1138
- 10. **Rokem, A.**, Yoon, J. H., Ooms, R. E., Maddock, R. J., Minzenberg, M. J., and Silver, M. A. (2011). Broader visual orientation tuning in patients with schizophrenia. *Front Hum Neurosci*, 5:127
- 9. **Rokem, A.** and Silver, M. A. (2010). Cholinergic enhancement augments magnitude and specificity of visual perceptual learning in healthy humans. *Curr. Biol.*, 20(19):1723–1728
- 8. **Rokem, A.**, Landau, A. N., Garg, D., Prinzmetal, W., and Silver, M. A. (2010). Cholinergic enhancement increases the effects of voluntary attention but does not affect involuntary attention. *Neuropsychopharmacology*, 35(13):2538–2544

- 7. Yoon, J. H., Maddock, R. J., **Rokem, A.**, Silver, M. A., Minzenberg, M. J., Ragland, J. D., and Carter, C. S. (2010). GABA concentration is reduced in visual cortex in schizophrenia and correlates with orientation-specific surround suppression. *J. Neurosci.*, 30(10):3777–3781
- 6. Eyherabide, H. G., **Rokem, A.**, Herz, A. V., and Samengo, I. (2009). Bursts generate a non-reducible spike-pattern code. *Front Neurosci*, 3(1):8–14
- 5. Yoon, J. H., **Rokem, A.**, Silver, M. A., Minzenberg, M. J., Ursu, S., Ragland, J. D., and Carter, C. S. (2009). Diminished orientation-specific surround suppression of visual processing in schizophrenia. *Schizophr Bull*, 35(6):1078–1084
- 4. **Rokem, A.** and Silver, M. A. (2009). A model of encoding and decoding in V1 and MT accounts for motion perception anisotropies in the human visual system. *Brain Res.*, 1299:3–16
- 3. **Rokem, A.** and Ahissar, M. (2009). Interactions of cognitive and auditory abilities in congenitally blind individuals. *Neuropsychologia*, 47(3):843–848
- 2. Eyherabide, H. G., **Rokem, A.**, Herz, A. V., and Samengo, I. (2008). Burst firing is a neural code in an insect auditory system. *Front Comput Neurosci*, 2:3
- 1. **Rokem, A.**, Watzl, S., Gollisch, T., Stemmler, M., Herz, A. V., and Samengo, I. (2006). Spike-timing precision underlies the coding efficiency of auditory receptor neurons. *J. Neurophysiol.*, 95(4):2541–2552

Peer-reviewed conference proceedings

- 12. Liu, F., Sankaranarayanan, V., Villanueva-Meyer, J., Hervey-Jumper, S., Hawkins, J., Damasceno, P., Bisson, M., Romero, J., Kurth, T., Fatica, M., Garyfallidis, E., **Rokem A**, Crane, J. C., and Majumdar, S. (2023). Clinical validation of rapid GPU-enabled DTI tractography of the brain. *Electronic Imaging*, 35(11):237–1–237–1
- 11. Chang, K., Burke, L., LaPiana, N., Howlett, B., Hunt, D., Dezelar, M., Andre, J. B., Ralston, J., **Rokem, A***, and Mac Donald, C* (2023). Advanced diffusion MRI modeling sheds light on FLAIR white matter hyperintensities in an aging cohort. *Proceedings of the MICCAI Workshop on Computational Diffusion MRI*, 2023
- 10. Kruper, J. and **Rokem, A** (2023). Automatic fast and reliable recognition of a small brain white matter bundle. *Proceedings of the MICCAI Workshop on Computational Diffusion MRI*, 2023
- 9. Hayot-Sasson, V., Glatard, T., and **Rokem, A** (2021). The benefits of prefetching for large-scale cloud-based neuroimaging analysis workflows. In 2021 IEEE Workshop on Workflows in Support of Large-Scale Science (WORKS), pages 42–49
- 8. Beyeler, M., Boynton, G. M., Fine, I., and **Rokem, A.** (2019a). Model-based recommendations for optimal surgical placement of epiretinal implants. *The 22nd International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2019), Shenzhen, China, Oct. 13-17, 2019.*
- 7. Richie-Halford, A. and **Rokem, A.** (2018). Cloudknot: A Python Library to Run your Existing Code on AWS Batch. In Fatih Akici, David Lippa, Dillon Niederhut, and Pacer, M., editors, *Proceedings of the 17th Python in Science Conference (SciPy)*

- 6. Beyeler, M., Boynton, G., Fine, I., and **Rokem, A.** (2017a). pulse2percept: A Python-based simulation framework for bionic vision. In *Proceedings of the 15th Python in Science Conference (SciPy)*
- 5. Mehta, P., Dorkenwald, S., Zhao, D., Kaftan, T., Cheung, A., Balazinska, M., **Rokem, A.**, Connolly, A., Vanderplas, J., and AlSayyad, Y. (2017). Comparative evaluation of big-data systems on scientific image analytics workloads. *Proceedings of the VLDB Endowment*, 10(11):1226–1237
- 4. Holdgraf, C., Culich, A., **Rokem, A.**, Deniz, F., Alegro, M., and Ushizima, D. (2017). Portable learning environments for hands-on computational instruction: Using container-and cloud-based technology to teach data science. In *Practice and Experience in Advanced Research Computing*, 2017
- 3. **Rokem, A.**, Aragon, C., Arendt, A., Fiore-Gartland, B., Hazelton, B., Hellerstein, J., Herman, B., Howe, B., Lazowska, E., Parker, M., Staneva, V., Stone, S., Tanweer, A., and Vanderplas, J. (2015a). Building an urban data science summer program at the University of Washington eScience Institute. In *The Bloomberg Data Science 4 Good Exchange*
- 2. Zheng, C. Y., Pestilli, F., and **Rokem, A.** (2014). Deconvolution of High Dimensional Mixtures via Boosting, with Application to Diffusion-Weighted MRI of Human Brain. *Adv Neural Inf Process Syst*, 27:2699–2707
- 1. **Rokem, A.**, Trumpis, M., and Pèrez, F. (2009). Nitime: time-series analysis for neuroimaging data. In Varoquaux, G., van der Walt, S., and Millman, J., editors, *Proceedings of the 8th Python in Science Conference (SciPy)*

Books and book chapters

- 4. **Rokem, A** and Yarkoni, T. (2023). *Neuroimaging and Data Science: An Introduction*. Princeton University Press, Princeton, NJ. http://neuroimaging-data-science.org/
- 3. **Rokem, A.** (2018). Reproducibility in human neuroimaging research: A practical example from the analysis of diffusion mri. In Kitzes, J., Turek, D., and Deniz, F., editors, *The Practice of Reproducible Research: Case Studies and Lessons from the Data-Intensive Sciences*. University of California Press, Oakland, CA
- 2. **Rokem, A.** and Chirigati, F. (2018). Glossary of reproducible research. In Kitzes, J., Turek, D., and Deniz, F., editors, *The Practice of Reproducible Research: Case Studies and Lessons from the Data-Intensive Sciences*. University of California Press, Oakland, CA
- 1. **Rokem, A.**, Marwick, B., and Staneva, V. (2018). Assessing reproducibility. In Kitzes, J., Turek, D., and Deniz, F., editors, *The Practice of Reproducible Research: Case Studies and Lessons from the Data-Intensive Sciences*. University of California Press, Oakland, CA

White papers and work in progress

- 1. Caffarra, S., Karipidis, I. I., Kruper, J., Kubota, E., Richie-Halford, A., Takada, M., **Rokem, A.**, and Yeatman, J. D. (2024b). Assessing white matter plasticity in a randomized controlled trial of early literacy training in preschoolers. https://www.biorxiv.org/content/10.1101/2024.08.16.608210v1
- 2. **Rokem, A**, Qiao, J., Yeatman, J. D., and Richie-Halford, A. (2023). Incremental improvements in tractometry-based brain-age modeling with deep learning. https://www.biorxiv.org/content/10.1101/2023.03.02.530885v1

- 3. **Rokem, A** (2021). News & views: Detect-ing brain anomalies with autoencoders. *Nature Computational Science*, 1(9):569–570
- 4. **Rokem, A**, Dichter, B., Holdgraf, C., and Ghosh, S. S. (2021). Pan-neuro: interactive computing at scale with BRAIN datasets. https://osf.io/mwh2b/

Online courses

- 1. Rokem, A. (2018). DataCamp course: Convolutional neural networks for image processing. https://www.datacamp.com/courses/convolutional-neural-networks-for-image-processing
- 2. Rokem, A. (2019). DataCamp course: Introduction to Matplotlib. https://www.datacamp.com/courses/introduction-to-matplotlib

Honors and awards

2024	Organization for Human Brain Mapping Education in Neuroimaging Award (\$2,500).
2023	McGill University Neuro / Irv and Helga Cooper Foundation Open Science Prize for international
	projects, received as a member of the Brain Imaging Data Structure steering group (\$80,000 CAD).
2022 - 2024	Elected member of the Brain Imaging Data Structure (BIDS) steering group.
2012 - 2015	NIH Postdoctoral National Research Service Award.
2009 - 2010	NIH Predoctoral National Research Service Award.

Current funded research

All \$ amounts specified for total cost

As Principal Investigator

2023-2024	NSF Workshop: Towards an Open Source Model for Data and Metadata Standards (role: PI) \$ 99,953
2017-2027	NIH/National Institute for Mental Health, R25: Summer Institute in Neuroimaging and Data Science
	(role: PI), \$2,003,598

As co-PI or senior personnel

2018-2027

	contract Pl, Pl: Eleftherios Garyfallidis), \$ 2,726,578
2021-2026	NIH U19: Adult Changes in Thought (ACT) Research Program (role: Senior Personnel, PI: Eric Lar-
	son and Paul Crane), \$23,352,014
2022-2024	Chan Zuckerberg Initiative Essential Open Source Software: Diffusion Imaging in Python (role: co-
	Investigator; PI: Serge Koudoro), \$165,407
2021-2024	NIH R01 A community-driven development of the brain imaging data standard (BIDS) to describe
	macroscopic brain connections (role: Senior Personnel; PI: Franco Pestilli) \$352,342.
2021-2024	NIH R01 NIPreps: integrating neuroimaging preprocessing workflows across modalities, popula-
	tions, and species (role: multi-PI) \$1,630,690

2019-2024 NIH R01: Aging eyes and aging brains in studying Alzheimer's disease: modern ophthalmic data

NIH R01: Community-supported open-source software for computational neuroanatomy (role: sub-

collection in the Adult Changes in Thought (ACT) study (role: Senior Personnel; PI: Cecilia Lee). \$17,197,690

Completed funded research

As Principal Investigator

2019-2024	NIH BRAIN Initiative RF1: A data science toolbox for analysis of Human Connectome Project diffu-
	sion MRI (role: PI), \$707,444.

2021-2022	UW Azure Cloud Computing Credits (role: PI), \$43,000
2021	Google Cloud Research Credits (role: PI), \$5,000
2021	Amazon Web Services Cloud Computing Credits (role: PI)

I), \$5,000

Google Cloud Research Credits (role: PI), \$5,000 2020 2021

UW Azure Cloud Computing Credits (role: PI), \$20,000

Google Cloud Research Credits (role: PI), \$5,000 2020

Google TensorFlow Research Cloud credits, 100 TPU hours role: PI. 2019

XSEDE: Educational allocation for a one-day course in neuroscience and data science (role: PI), 10,000 2017 core hours.

Amazon Web Services cloud computing credits for research (role: PI), \$30,000. 2016

NIH/National Eye Institute, National Research Service Award (F32): The Anatomical Basis of Texture 2012-2015 Perception in Central and Peripheral Visual Field (role: PI), \$155,346.

NIH/National Institute for Aging, National Research Service Award (F31): Neural Mechanisms of 2009-2010 Perceptual Learning (role: PI), \$22,253.

As co-PI or senior personnel

- NSF BDHUBS: Collaborative Proposal: West: Accelerating the Big Data Innovation Ecosystem (role: 2019-2023 Senior Personnel, PI: Ed Lazowska), \$201,822.
- NSF HDR: I-DIRSE-FW: Accelerating the Engineering Design and Manufacturing Life-Cycle with 2019-2023 Data Science (role: co-PI; PI: Magda Balazinska), \$2,320,979.
- The Bill & Melinda Gates Foundation: Advance Data Analytic Support for Strategic PNW Partners 2017-2023 by eScience Institute (role: co-PI, PI: Bill Howe), \$754,601.
- NSF AccelNet Exchange Grant through the International Network for Biologically-Inspired Comput-2021-2022 ing \$10,000.
- NIH BRAIN Initiative U19: Computational and Circuit Mechanisms Underlying Rapid Learning. 2018-2022 (role: Data Science Core Senior Personnel, PI: Beth Buffalo), \$14,439,172.
- NSF TRIPODS + X EDU: Foundational training in neuroscience and geoscience via hack weeks (role: 2018 - 2021 co-PI, PI: Maryam Fazel), \$ 185,058.
- NSF SI2-SSE: An ecosystem of reusable image analytics pipelines (role: co-PI, PI: Andy Connoly), 2017-2020 \$500,000.
- The Bill & Melinda Gates Foundation: The King County Analytics Project (role: co-PI, PI: Bryna Hazel-2017-2018 ton), \$320,000.
- NSF ACI SI2-S2I2: Conceptualization: Conceptualizing a US Research Software Sustainability Insti-2017-2018 tute (URSSI) (role: senior Personnel, PI: Daniel Katz), \$ 499,999.
- NSF BDHUBS: A Big Data Innovation Hub for the Western United States (role: co-PI, PI: Ed La-2015-2018 zowska), \$201,822.

The Bill & Melinda Gates Foundation: Increasing Data-Driven Decision Making through Data Mod-2015-2016 eling Techniques and Best Practices (role: co-PI, PI: Bryna Hazelton), \$140,995.

Invited talks

8/2008

7/2024	National Institute for Physiological Sciences, Okazaki, Japan
7/2024	Yonsei University, Seoul, Korea
6/2024	Department of Psychology, University of Marburg, Germany
11/2023	Tanenbaum Open Science Institute Leaders Council. McGill University, Canada
11/2023	Quantitative Life Sciences and Medicine seminar series. McGill University, Canada
4/2023	Academic Data Science Alliance. "Careers in neuroscience and data science" panel.
11/2022	Society for Neuroscience Professional Development Workshop: "Brain Data Science: A World of New Neuroscience Career Opportunities".
7/2022	Invited talk at Pacific Northwest National Lab MARS Seminar (online).
8/2021	Invited talk at Research Running on Cloud Compute & Emerging Technologies (RRoCCET) 2021 (on-
0,2021	line).
6/2021	Oregon State University (Corvalis) and Nanyang Techincal University (Singapore) CN Yang Scholars program (online)
10/2020	Open Data Science Conference West, San Francisco, CA (and online).
9/2020	Amazon Web Services Education: Research Seminar Series (online)
9/2019	INCF Neuroinformatics congress, Warsaw, Poland (Keynote).
5/2019	Halıcıoğlu Data Science Institute, University of California, San Diego.
5/2019	Northwest Data Science Summit, University of Washington, Seattle, WA.
10/2018	Carnegie Mellon University, Open Science Symposium, Pittsburgh, PA.
10/2018	Presentation to the Advisory Council to the NIH Director Working Group for the BRAIN Initiative
	2.0, Baylor College of Medicine, Houston, TX.
6/2018	ISMRM educational course: "Modeling diffusion MRI", Paris, France.
5/2018	Edmund and Lily Safra Center for Brain Science, The Hebrew University of Jerusalem, Israel.
5/2018	Department of Physiology and Biophysics, University of Washington, Seattle, WA.
11/2017	Center for Studies in Demography and Ecology, University of Washington, Seattle, WA.
7/2017	PNW Prostate Cancer SPORE annual meeting, Seattle, WA.
11/2015	Psychology Department, Indiana University, Bloomington, IN.
3/2015	Berkeley Institute for Data Science. Berkeley, CA
8/2014	Neuroimaging Laboratory, Washington University, Saint Louis, MO.
5/2013	Max Planck Institute for Brain Research, Frankfurt, Germany.
1/2012	Tech talk at GitHub Inc, San Francisco, CA
6/2011	Psychology Department, Dartmouth University. Hannover, NH.
1/2011	Center for Magnetic Resonance Research, University of Minneapolis. Twin Cities, MN
1/2011	Department of Psychology, Vanderbilt University. Nashville, TN.
3/2009	Posit Science. San Francisco, CA.
10/2008	Stanford Vision Lunch. Stanford, CA.
9/2008	The Institute for Theoretical Biology, Humboldt University, Berlin, Germany.
9/2008	The Institute for Biology, Ludwig-Maximillian University, Munich, Germany.

UC Davis, Imaging Research Center. Davis, CA.

Selected Conference presentation (last five years)

- 1. Advanced diffusion modeling classifies FLAIR white matter hyperintensity types in an aging cohort. Kelly Chang, Luke Burke, Nina LaPiana, Bradley Howlett, David Hunt, Margaret Dezelar, Jalal B. Andre, James Ralston, **Ariel Rokem** *, Christine Mac Donald* . Organization for Human Brain Mapping, 2024. (* indicates equal contribution). KC was awarded an OHBM merit award for this abstract.
- 2. Early life adversity and white matter development. Adam Richie-Halford, Ethan Roy, John Kruper, Jason Yeatman, **Ariel Rokem**. Annual Meeting of the Society for Neuroscience, 2022.
- 3. Deep learning for analysis of diffusion-MRI based white matter tractometry. Joanna Qiao, Jason Yeatman, **Ariel Rokem**, Adam Richie-Halford (2022). Annual Meeting of the Society for Neuroscience, 2022.
- 4. Francois Rheault, Valérie Hayot-Sasson, Robert E. Smith, Christopher Rorden, Jacques-Donald Tournier, Eleftherios Garyfallidis, Fang-Cheng Yeh, Christopher J. Markiewicz, Matthew Brett, Ben Jeurissen, Paul A. Taylor, D. Baran Aydogan, Derek A. Pisner, Serge Koudoro, Soichi Hayashi, Daniel Haehn, Steve Pieper, Daniel Bullock, Emanuele Olivetti, Jean-Christophe Houde, Marc-Alexandre Côté, Flavio Dell'Acqua, Alexander Leemans, Maxime Descoteaux, Bennett Landman, Franco Pestilli, and Ariel Rokem (2002). TRX: A community-oriented tractography file format. Annual Meeting of the Organization for Human Brain Mapping, 2022.
- 5. Adam Richie-Halford, Matthew Cieslak, Azeez Adebimpe, Sydney Covitz, McKenzie Paige Hagen, John Kruper, Mengjia Lyu, Oscar Miranda-Dominguez, Audrey Houghton, Damien Fair, Jason D. Yeatman, Theodore D. Satterthwaite, **Ariel Rokem**. (2022) NIRV: The NeuroImaging Report Viewer. Annual Meeting of the Organization for Human Brain Mapping, 2022.
- 6. Mareike Grotheer, David Bloom, John Kruper, Manjari Narayan, Adam Richie-Halford, Vicente A. Aguilera González, Jason D. Yeatman, Kalanit Grill-Spector, and Ariel Rokem (2022) Spatiotemporal differences in development of preterm infants white matter bundles are explained by faster *in utero* compared to *ex utero* myelination. Annual Meeting of the Organization for Human Brain Mapping, 2022.
- Manjari Narayan, Noah Simon, Adam Richie-Halford, Jason Yeatman, Ariel Rokem (2021).
 Nonparametric causal analysis of brain and cognition, applied to developmental neuroimaging. Annual Meeting of the Organization for Human Brain Mapping 2021.
- 8. John Kruper, Jason D. Yeatman, Adam Richie-Halford, David Bloom, Mareike Grotheer, Sendy Caffarra, Gregory Kiar, Iliana I. Karipidis, Ethan Roy, **Ariel Rokem** (2021). Evaluating the reliability of diffusion-MRI based tractometry. Annual Meeting of the Organization for Human Brain Mapping 2021.
- 9. Adam Richie-Halford, Matthew Cieslak, Alexandre R. Franco, Valerie J. Sydnor, Jason Yeatman, Lei Ai, Michael Milham, Theodore D. Satterthwaite, **Ariel Rokem** (2021). A preprocessed open diffusion derivatives dataset from the Healthy Brain Network. Annual Meeting of the Organization for Human Brain Mapping 2021. Received *Merit Abstract Award*.
- 10. Mauro Bisson, Josh Romero, Thorsten Kurth, Massimiliano Fatica, Pablo F. Damasceno, Xihe Xie, Adam Richie-Halford, Serge Koudoro, Eleftherios Garyfallidis, **Ariel Rokem** (2021). GPU-accelerated diffusion MRI tractography in DIPY. International Society for Magnetic Resonance in Medicine 2021

- 11. Rafael Neto Henriques, Marta Correia, Maurizio Marrale, Elizabeth Huber, John Kruper, Serge Koudoro, Jason Yeatman, Eleftherios Garyfallidis, **Ariel Rokem** (2021). Diffusional Kurtosis Imaging in the Diffusion Imaging in Python Project. Inernational Society for Magnetic Resonance in Medicine 2021
- 12. A. Richie-Halford, J. Yeatman, N. Simon, and **A. Rokem** (2021). Multidimensional analysis and detection of informative features in diffusion MRI measurements of human white matter. Inernational Society for Magnetic Resonance in Medicine 2021. Received the *Magna Cum Laude* award based on reviewer scores.
- 13. A. Keshavan, J. Yeatman, A. Rokem (2019). Swipes for science: An open-source gamified citizen science framework for scalable data annotation. Organization for Human Brain Mapping, 2019.
- 14. A. Richie-Halford J. Yeatman, **A. Rokem**, A. Keshavan (2019). DMRIprep: a Robust, Scalable Preprocessing Pipeline for diffusion MRI. Organization for Human Brain Mapping 2019.
- 15. S. Xiao, Y. Wu, A. Y. Lee, **A. Rokem** (2019). MRI2MRI: deep learning neural networks infer brain diffusion properties from T1-weighted MRI. Organization for Human Brain Mapping 2019.
- 16. A. Richie-Halford, Jason Yeatman, Noah Simon, and **A. Rokem** (2018, 2019). Multidimensional analysis and detection of informative features in diffusion MRI measurements of human white matter. Society for Neuroscience, 2018. Organization for Human Brain Mapping 2019.

Teaching

Classes

As principal instructor

Spring 2024 Informatics for Psychology, Graduate Seminar, UW Department of Psychology. Website: https://uw-psych.github.io/2024-psych532.

As guest instructor

5/2021 Image Analysis for Data Scientists, UW Department of Chemical Engineering (Instructor: Chad Curtis)

2017 - 2018 Data Science and Society, UW Department of Sociology (Instructor: Afra Mashhadi)

MA capstone class, Department of Statistics, University of California, Berkeley (Instructor: Victoria Stodden).

10/2013 MRI methods, Department of Psychology, Stanford University (Instructor: Brian Wandell).

Software and Data Carpentry

- 2022 University of Washington eScience Institute: led instruction of pilot workshop in Image Processing in Python, 20 participants.
- 2015 2020 University of Washington eScience Institute: led instruction of 20 workshops, >1,000 participants from >30 departments on campus.
- 2015 University of Washington eScience Institute: led 3 Carpentries instructor training workshops. Trained >40 Carpentries instructors.
- 2018 2021 Annual Instructor Training, The West Big Data Innovation Hub. Seattle, WA. Trained more than >50 Carpentries Instructors.

	Other workshops
2021 - 2024 11/2023	Co-organizer (with Catherine Lebel, François Rheault): "Tractometry: peering into the white matter", educational course at the annual meeting of the Organization for Human Brain Mapping Faculty: African Brain Data Science Academy
	https://africanbraindatanetwork.com/abds-academy/.
1/2022	Organizer and lead instructor: Workshop on data science training and collaboration in Hispanic-Serving Institutions (West Big Data Hub and HSI STEM Hub;
6/2021	https://uwescience.github.io/dstc-20220118/). Organizer and lead instructor: Workshop on data science training and collaboration in Hispanic-Serving Institutions (West Big Data Hub and HSI STEM Hub;
9/2019	https://uwescience.github.io/dstc-2021/). Organizer and lead instructor: workshop on data science training and collaboration in Hispanic-Serving Institutions (West Big Data Hub and HSI STEM Hub;
2019 & 2020	https://uwescience.github.io/2019-09-16-dstc-workshop/). Co-organizer (with Andrew Doyle): "Deep Learning in Human Brain Mapping", educational course at the annual meeting of the Organization for Human Brain Mapping
	Mentorship
	Postdocs
2023 –	Kelly Chang
2020 - 2022 2020 - 2021 2016 - 2019	Adam Richie-Halford. Currently Research and Development Scientist at Stanford. Manjari Narayan (with Jason Yeatman). Currently Machine Learning Scientist at Dyno Therapeutics. Michael Beyeler (with Ione Fine). Currently Assistant Professor at the University of California, Santa-
	Barbara.
2017 – 2018 2016 – 2017	Anisha Keshavan (with Jason Yeatman). Currently Senior Data Scientist at Stratagen Bio. Dongfang Zhao (With Magda Balazinska). Currently Assistant Professor at the University of Nevada, Reno.
	PhD students
	As principal advisor
2022 – 2021 –	John Kruper (NSF Graduate Research Fellowship recipient) McKenzie Hagen (DOE Computational Science Graduate Fellowship recipient)
	As secondary advisor
2017 – 2022 –	Ezgi Yücel (with Ione Fine) Vaishnavi Mohan (with Ione Fine)
	Post-baccalaureate students
2022 - 2024 2020 - 2022 2020 - 2021	Teresa Gomez (NIH research fellowship) John Kruper (UW Institue of Neuroengineering post-baccalaureate fellowship recipient). David Bloom.

	PhD committee membership
2021 - 2023	Shervin Sahba, UW Physics
2022	Kelly Chang, UW Department of Psychology
2019 - 2020	Parmita Mehta, UW Computer Science and Engineering.
2017 – 2020	Chad Curtis, UW Department of Chemical Engineering. Kivan Polimis, UW Department of Sociology.
2017	Rivan Folimis, UW Department of Sociology.
	Google Summer of Code Open Source Software Interns
Summer 2016	Shahnawaz Ahmed (DIPY).
Summer 2015	Rafael Neto-Henriques (DIPY).
	Research interns and undergraduate students
2023 –	Asa Gilmore (Biology undergraduate student)
2023	Qiqi Liang (Biology undergraduate student), Isaac Crane (Highschool student intern).
2022	Joanna Qiao (Psychology independent study). Leqi Teng (Psychology Honors Student), Cecilia Barnes (HCDE independent study).
2021	Lequileng (1 sychology 110hors 3tudent), Cechia barnes (11CDE independent study).
	Additional mentorship
2022	Academic Data Science Alliance individual mentorship: Emily Grabowski.
2023 –	African Brain Data Network mentorship: Fidelis Bayor (Ghana), Ibeachu Chinagorom (Nigeria), Safiya
	Hanwa (Nigeria)
	Public Outreach
2023 -	Lectures about early life brain development to small groups of parents through the Program for Early
	Parent Support (PEPS) Seattle.
	Service
	At the University of Washington
2020 –	Department of Psychology, Graduate Training Committee
2020 –	Department of Psychology, Graduate Admissions Committee
2020 –	Department of Psychology, Data intensive Research Committee
2022 – 2022 –	Department of Psychology, Data-intensive Research Committee Department of Psychology, Mentor, Faculty Mentoring Program.
2020 –	Co-Director, Center for Human Neuroscience
2023 –	Mary Gates Fellowship reviewer
2023	Chair, organizing committee for the eScience 15-year anniversary symposium
2017 – 2020 2016 – 2017	Chair, University of Washington eScience Institute Special Interest Group on Neuroinformatics. Organizer of the ImageXD workshop series on image processing across domains (http://www.imagexd.
2010 - 2017	org/).
2017 2025	Coffice of Companion Instruction Train on training and contifuing instruction for Coffice of Companion

Software Carpentry Instructor Trainer: training and certifying instructors for Software Carpentry.

Course Director, Summer Institute in Neuroimaging and Data Science (https://neurohackademy.

2016 - 2022

org).

2016 -

- 2015 2024 University of Washington eScience Institute Data Science for Social Good fellowship program admissions committee.
- 2017 2018 Chair, University of Washington eScience Institute Working Group on Reproducibility and Open Science.

At national and international organizations

- 2024 Member, Scientific Committee, International Society for Tractography
- Member, Advisory Committee for USC-based Reproducible Rehabilitation (ReproRehab) research education program https://www.reprorehab.usc.edu/
- 2022 2024 Member, Brain Imaging Data Structure (BIDS) steering group
- 2020 2024 Chair, International Neuroinformatics Coordinating Facility Training and Education Committee.
- 2021 Chair, "Data Science and Neuroinformatics" symposium at the International Neuroinformatics Coordination Facility Assembly
- 2018 2022 Member, Organization for Human Brain Mapping Education Committee.
- 2020 2022 Deputy Chair, International Neuroinformatics Coordinating Facility Training and Education Committee.
- 2017 2024 Member of the International Neuroinformatics Coordinating Facility Training and Education Committee.
- 2017 Chair (with Olivia Guest) mini-symposium in neuroscience, *Scientific Computing in Python* conference.
- 2016 2019 Co-PI of the Western Big Data Innovation Hub.
- 2014 Chair (with Franco Pestilli): "The White Matter Matters: Diffusion MRI in Vision Science". Symposium at the Vision Sciences Society annual meeting.
- 2012 Software Carpentry Instructor.

Editorial board member, *Scientific Data* (2021 -); Program committee member for *Pattern Recognition in Neuroimaging* (2015, 2016), *Scientific Computing in Python* (2016, 2017).

Reviewer for Annals of Applied Statistics, PLoS One, Human Brain Mapping, Journal of Cognitive Neuroscience, Frontiers in Human Neuroscience, Frontiers in Abnormal Psychology, Journal of Open Research Software, Neuroimage, Journal of Vision, F1000 Research, Journal of Neuroimaging, Current Opinion in Neuroscience, Psychophysiology, Scientific Data, Proceedings of the National Academy of Science, USA, Neuroinformatics, PLoS Computational Biology, eLife, IOVS, Nature Communications, Biological Psychiatry, Imaging Neuroscience, Ophthalmology Science, Aperture Neuro.

Grant reviewer for NIH, NSF, Academic Data Science Alliance, Chan Zuckerberg Initiative, U.S.-Israel Binational Science Foundation (BSF).

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