

Publications

JOURNAL ARTICLES

1. Cheng, H., Vinci-Booher, S., Wang, J., Caron, B., Wen, Q., Newman, S., & Pestilli, F. (2022). Denoising diffusion weighted imaging data using convolutional neural networks. *PLOS ONE*, 17(9), e0274396. <https://doi.org/10.1371/journal.pone.0274396>
2. Niso, G., Botvinik-Nezer, R., Appelhoff, S., Vega, A. D. L., Esteban, O., Etzel, J. A., Finc, K., Ganz, M., Gau, R., Halchenko, Y. O., Herholz, P., Karakuzu, A., Keator, D. B., Markiewicz, C. J., Maumet, C., Pernet, C. R., Pestilli, F., Queder, N., Schmitt, T., ... Rieger, J. W. (2022). Open and reproducible neuroimaging: From study inception to publication. *NeuroImage*, 263, 119623. <https://doi.org/10.1016/j.neuroimage.2022.119623>
3. Sreenivasan, V., Kumar, S., Pestilli, F., Talukdar, P., & Sridharan, D. (2022). GPU-accelerated connectome discovery at scale. *Nature Computational Science*, 2(5), 298–306. <https://doi.org/10.1038/s43588-022-00250-z>
4. Vinci-Booher, S., Caron, B., Bullock, D., James, K., & Pestilli, F. (2022). Development of white matter tracts between and within the dorsal and ventral streams. *Brain Structure and Function*, 227(4), 1457–1477. <https://doi.org/10.1007/s00429-021-02414-5>
5. Bullock, D. N., Hayday, E. A., Grier, M. D., Tang, W., Pestilli, F., & Heilbronner, S. R. (2022). A taxonomy of the brain's white matter: Twenty-one major tracts for the 21st century. *Cerebral Cortex*, 32(20), 4524–4548. <https://doi.org/10.1093/cercor/bhab500>
6. Babo-Rebelo, M., Puce, A., Bullock, D., Hugueville, L., Pestilli, F., Adam, C., Lehongre, K., Lambrecq, V., Dinkelacker, V., & George, N. (2022). Visual information routes in the posterior dorsal and ventral face network studied with intracranial neurophysiology and white matter tract endpoints. *Cerebral Cortex*, 32(2), 342–366. <https://doi.org/10.1093/cercor/bhab212>
7. Echevarria-Cooper, S. L., Zhou, G., Zelano, C., Pestilli, F., Parrish, T. B., & Kahnt, T. (2022). Mapping the microstructure and striae of the human olfactory tract with diffusion MRI. *The Journal of Neuroscience*, 42(1), 58–68. <https://doi.org/10.1523/jneurosci.1552-21.2021>
8. Allen, E. J., St-Yves, G., Wu, Y., Breedlove, J. L., Prince, J. S., Dowdle, L. T., Nau, M., Caron, B., Pestilli, F., Charest, I., Hutchinson, J. B., Naselaris, T., & Kay, K. (2022). A massive 7T fMRI dataset to bridge cognitive neuroscience and artificial intelligence. *Nature Neuroscience*, 25(1), 116–126. <https://doi.org/10.1038/s41593-021-00962-x>
9. Eke, D. O., Bernard, A., Bjaalie, J. G., Chavarriaga, R., Hanakawa, T., Hannan, A. J., Hill, S. L., Martone, M. E., McMahon, A., Ruebel, O., Crook, S., Thiels, E., & Pestilli, F. (2021). International data governance for neuroscience. *Neuron*, 110(4), 600–612. <https://doi.org/10.1016/j.neuron.2021.11.017>
10. Puzniak, R. J., McPherson, B., Ahmadi, K., Herbig, A., Kaufmann, J., Liebe, T., Gouws, A., Morland, A. B., Gottlob, I., Hoffmann, M. B., & Pestilli, F. (2021). CHIASM, the human brain albinism and achiasma MRI dataset. *Scientific Data*, 8(1). <https://doi.org/10.1038/s41597-021-01080-w>
11. McPherson, B. C., & Pestilli, F. (2021). A single mode of population covariation associates brain networks structure and behavior and predicts individual subjects' age. *Communications Biology*, 4(1). <https://doi.org/10.1038/s42003-021-02451-0>
12. Sani, I., Stemmann, H., Caron, B., Bullock, D., Stemmler, T., Fahle, M., Pestilli, F., & Freiwald, W. A. (2021). The human endogenous attentional control network includes a ventro-temporal cortical node. *Nature Communications*, 12(1). <https://doi.org/10.1038/s41467-020-20583-5>
13. Hanke, M., Pestilli, F., Wagner, A. S., Markiewicz, C. J., Poline, J.-B., & Halchenko, Y. O. (2021). In defense of decentralized research data management. *Neuroforum*, 0(0). <https://doi.org/10.1515/nf-2020-0037>
14. Bertò, G., Bullock, D., Astolfi, P., Hayashi, S., Zigiotti, L., Annicchiarico, L., Corsini, F., Benedictis, A. D., Sarubbo, S., Pestilli, F., Avesani, P., & Olivetti, E. (2021). Classifyer, a robust streamline-based linear classifier for white matter bundle segmentation. *NeuroImage*, 224, 117402. <https://doi.org/10.1016/j.neuroimage.2020.117402>
15. Caron, B., Stuck, R., McPherson, B., Bullock, D., Kitchell, L., Faskowitz, J., Kellar, D., Cheng, H., Newman, S., Port, N., & Pestilli, F. (2021). Collegiate athlete brain data for white matter mapping and network neuroscience. *Scientific Data*, 8(1). <https://doi.org/10.1038/s41597-021-00823-z>

16. Schilling, K. G., Rheault, F., Petit, L., Hansen, C. B., Nath, V., Yeh, F.-C., Girard, G., Barakovic, M., Rafael-Patino, J., Yu, T., Fisch-Gomez, E., Pizzolato, M., Ocampo-Pineda, M., Schiavi, S., Canales-Rodríguez, E. J., Daducci, A., Granziera, C., Innocenti, G., Thiran, J.-P., ... Descoteaux, M. (2021). Tractography dissection variability: What happens when 42 groups dissect 14 white matter bundles on the same dataset? *NeuroImage*, 243, 118502. <https://doi.org/10.1016/j.neuroimage.2021.118502>
17. Hanekamp, S., Ćurčić-Blake, B., Caron, B., McPherson, B., Timmer, A., Prins, D., Boucard, C. C., Yoshida, M., Ida, M., Hunt, D., Jansonius, N. M., Pestilli, F., & Cornelissen, F. W. (2021). White matter alterations in glaucoma and monocular blindness differ outside the visual system. *Scientific Reports*, 11(1). <https://doi.org/10.1038/s41598-021-85602-x>
18. Kurzawski, J. W., Mikellidou, K., Morrone, M. C., & Pestilli, F. (2020). The visual white matter connecting human area prostriata and the thalamus is retinotopically organized. *Brain Structure and Function*, 225(6), 1839–1853. <https://doi.org/10.1007/s00429-020-02096-5>
19. Chandio, B. Q., Risacher, S. L., Pestilli, F., Bullock, D., Yeh, F.-C., Koudoro, S., Rokem, A., Harezlak, J., & Garyfallidis, E. (2020). Bundle analytics, a computational framework for investigating the shapes and profiles of brain pathways across populations. *Scientific Reports*, 10(1). <https://doi.org/10.1038/s41598-020-74054-4>
20. Murphy, M. C., Mejia, A. F., Mejia, J., Yan, X., Cheryan, S., Dasgupta, N., Destin, M., Fryberg, S. A., Garcia, J. A., Haines, E. L., Harackiewicz, J. M., Ledgerwood, A., Moss-Racusin, C. A., Park, L. E., Perry, S. P., Ratliff, K. A., Rattan, A., Sanchez, D. T., Savani, K., ... Pestilli, F. (2020). Open science, communal culture, and women's participation in the movement to improve science. *Proceedings of the National Academy of Sciences*, 117(39), 24154–24164. <https://doi.org/10.1073/pnas.1921320117>
21. Kaneko, T., Takemura, H., Pestilli, F., Silva, A. C., Ye, F. Q., & Leopold, D. A. (2020). Spatial organization of occipital white matter tracts in the common marmoset. *Brain Structure and Function*, 225(4), 1313–1326. <https://doi.org/10.1007/s00429-020-02060-3>
22. Rheault, F., Benedictis, A. D., Daducci, A., Maffei, C., Tax, C. M. W., Romascano, D., Caverzasi, E., Morency, F. C., Corrivetti, F., Pestilli, F., Girard, G., Theaud, G., Zemmoura, I., Hau, J., Glavin, K., Jordan, K. M., Pomiecko, K., Chamberland, M., Barakovic, M., ... Descoteaux, M. (2020). Tractostorm: The what, why, and how of tractography dissection reproducibility. *Human Brain Mapping*, 41(7), 1859–1874. <https://doi.org/10.1002/hbm.24917>
23. Ahmadi, K., Fracasso, A., Puzniak, R. J., Gouws, A. D., Yakupov, R., Speck, O., Kaufmann, J., Pestilli, F., Dumoulin, S. O., Morland, A. B., & Hoffmann, M. B. (2020). Triple visual hemifield maps in a case of optic chiasm hypoplasia. *NeuroImage*, 215, 116822. <https://doi.org/10.1016/j.neuroimage.2020.116822>

PREPRINTS

1. Vinci-Booher, S., McDonald, D. J., Berquist, E., & Pestilli, F. (2023). *Associative white matter tracts selectively predict sensorimotor learning*. <https://doi.org/10.1101/2023.01.10.523345>
2. Renton, A. I., Dao, T. T., Abbott, D. F., Bollmann, S., Campbell, M. E. J., Chang, J., Close, T. G., Eckstein, K., Egan, G. F., Evas, S., Garner, K. G., Garrido, M. I., Hannan, A. J., Huber, R., Johnstone, T., Kaczmarzyk, J. R., Kasper, L., Kuhlmann, L., Lou, K., ... Bollmann, S. (2022). *Neurodesk: An accessible, flexible, and portable data analysis environment for reproducible neuroimaging*. <https://doi.org/10.1101/2022.12.23.521691>
3. Liang, X., Cohen, A., Heinsfeld, A. S., Pestilli, F., & McDonald, D. J. (2022). *Sparsegl: An R package for estimating sparse group lasso*. arXiv. <https://doi.org/10.48550/ARXIV.2208.02942>
4. Allen, E. J., St-Yves, G., Wu, Y., Breedlove, J. L., Dowdle, L. T., Caron, B., Pestilli, F., Charest, I., Hutchinson, J. B., Naselaris, T., & Kay, K. (2021). *A massive 7T fMRI dataset to bridge cognitive and computational neuroscience*. <https://doi.org/10.1101/2021.02.22.432340>
5. Parker, C., Mejia, J., & Pestilli, F. (2021). *The spread of COVID-19 increases with individual mobility and depends on political leaning*. <https://doi.org/10.21203/rs.3.rs-147801/v1>
6. Central, E. P. (2020). The spread of COVID-19 increases with individual mobility and depends on political leaning.

BOOKS

BOOK CHAPTERS

Professional Presentations

brainlife.io an open and free cloud computing platform

THE UNIVERSITY OF CONNECTICUT AT STORRS

2023

Understanding white matter

THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

2023

White matter and neuroinformatics

NEW YORK UNIVERSITY

2022

brainlife.io an open and free cloud computing platform for reproducible neuroscience

THE INTERNATIONAL BRAIN INITIATIVE SFN SATELLITE SYMPOSIUM

2022

Conference Abstracts

Honors

Funding

Developing an international governance framework to advance global brain and mental health data equity

FUNDING: \$2,643,470

Wellcome Trust,

2023 - 2026

BD Spokes: SPOKE: MIDWEST: Collaborative: Advanced Computational Neuroscience Network (ACNN)

FUNDING: \$332,869

Directorate for Computer &
Information Science & Engineering,
2148729

2021 - 2023

Collaborative Proposal: CRCNS US-German Data Sharing Proposal: DataLad - a decentralized system for integrated discovery, management, and publication of digital objects of science

FUNDING: \$152,802

Directorate for Computer &
Information Science & Engineering,
2148700

2021 - 2023

A community-driven development of the brain imaging data standard (BIDS) to describe macroscopic brain connections

FUNDING: \$352,342

NIMH, R01MH126699

2021 - 2023

BD Hubs: Collaborative Proposal: Midwest: Midwest Big Data Hub: Building Communities to Harness the Data Revolution

FUNDING: \$254,997

Directorate for Computer &
Information Science & Engineering,
1916518

2019 - 2023

NCS-FO: Connectome mapping algorithms with application to community services for big data neuroscience

FUNDING: \$650,000

Directorate for Social, Behavioral &
Economic Sciences, 2203524

2021 - 2022

Harnessing machine learning and cloud computing to test biological models of the role of white matter in human learning

FUNDING: \$138,000

Directorate for Social, Behavioral &
Economic Sciences, 2004877

2020 - 2022

CRCNS: US-France Data Sharing Proposal: Lowering the barrier of entry to network neuroscience

FUNDING: \$546,454

National Institute of Biomedical
Imaging and Bioengineering,
R01EB029272

2019 - 2022

Collaborative Proposal: CRCNS US-German Data Sharing Proposal: DataLad - a decentralized system for integrated discovery, management, and publication of digital objects of science

FUNDING: \$152,802

Directorate for Computer &
Information Science & Engineering,
1912270

2019 - 2022

NCS-FO: Connectome mapping algorithms with application to community services for big data neuroscience

FUNDING: \$650,000

*Directorate for Social, Behavioral &
Economic Sciences, 1734853*

2017 - 2022

BD Spokes: SPOKE: MIDWEST: Collaborative: Advanced Computational Neuroscience Network (ACNN)

FUNDING: \$399,069

*Directorate for Computer &
Information Science & Engineering,
1636893*

2016 - 2021

Service

International Brain Initiative

CHAIR OF THE DATA SHARING WORKING GROUP

Austin, US

2023 - present

The University of Texas at Austin

T&P REORGANIZATION COMMITTEE

Austin, US

2022 - present

National Institutes of Health

PANEL REVIEWER

Bethesda, US

2022 - present

Center of Biomedical Research Support (CBRS)

ADVISORY BOARD

Austin, US

2020 - present

National Institutes of Health

PANEL REVIEWER

Bethesda, US

2020 - present

National Institutes of Health

PANEL REVIEWER

Bethesda, US

2022 - 2023

National Institute of Biomedical Imaging and Bioengineering

PANEL REVIEWER

Bethesda, US

2020 - 2021

Mentoring and Teaching

MENTORING

Suna Guo

QUALIFICATIONS EVALUATION COMMITTEE MEMBER

2022 - present

TEACHING

Foundations of Psychological Data Science I

INSTRUCTOR (NEW SERIES OF TUTORIALS)

2022 - 2022

Tutorials on Python, GitHub

INSTRUCTOR (NEW SERIES OF TUTORIALS)

2021 - 2021

Professional development seminars

ORGANIZER

2021 - 2021

Digital Neuroanatomy

INSTRUCTOR (NEW COURSE)

2021 - 2021