

CURRICULUM VITAE

Patrick Sadil, PhD, MS

PROFESSIONAL DATA

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[GitHub: psadil](#)

he/him

EDUCATION AND TRAINING

2020 PhD, Cognitive Psychology, University of Massachusetts, Amherst, MA
2019 MS, Cognitive Psychology, University of Massachusetts, Amherst, MA
2014 BA, Biology, Reed College, Portland, OR

Postdoctoral Training

2021–2022 Biostatistics, Johns Hopkins University
2020–2021 Psychological and Brain Sciences, UMass Amherst

PROFESSIONAL EXPERIENCE

Johns Hopkins University

Research Associate, Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health, 2022–Present

PROFESSIONAL ACTIVITIES

Society Membership and Leadership

Organization for Human Brain Mapping Member (2022–Present); Society for Neuroscience Member (2020, 2024); American Statistical Association Member (2022)

EDITORIAL AND OTHER INVITED PEER REVIEW ACTIVITIES

Journal Peer Review Activities

Imaging Neuroscience (2025–Present); Frontiers Aging Neuroscience (2024–Present); Journal of Mathematical Psychology (2022–Present)

Peer Review of Reports and Other Documents

Springer Book Review (2018)

HONORS AND AWARDS

Awards

Keith Rayner Memorial Graduate Student Research Award (\$1500), 2018, Department of Psychological and Brain Sciences, University of Massachusetts, Amherst

Center for Research on Families Travel Grant (\$500), 2018, Center for Research on Families, University of Massachusetts, Amherst

Edna M. Dahlquist Scholarship (\$2000), 2016, Department of Psychological and Brain Sciences, University of Massachusetts, Amherst

Biology Undergraduate Research Proposal (\$1500), 2014, Department of Biology, Reed College

Summer Undergraduate Research Fellowship (\$5000), 2013, Department of Biology, Reed College

PUBLICATIONS

Journal Articles (peer reviewed)

***Tags from Contributor Roles Taxonomy (CRediT)

Miao, Z., Jung, H., Kragel, P. A., Bo, K., **Sadil, P.**, Lindquist, M. A., & Wager, T. D. (2026). Common and distinct neural correlates of social interaction processing and theory of mind in narratives. *Nature Communications*.

- Data Curation, Resources, Software, Writing—Review & Editing

Johnson, M. A., Keser, Z., Lammers, B., Sydnor, M. J., Murter, J. L., **Sadil, P.**, ... & Sebastian, R. (2026). White matter predictors of cerebellar tDCS treatment effects in aphasia rehabilitation. *Frontiers in Neurology*, *17*, 1659337.

- Formal analysis, Methodology

Pluimer, B., Sridhar, A., Mawla, I., Wu, H. M., Lulla, R., Hennessy, S., ..., **Sadil, P.**, ... & Harris, R. E. (2026). A Proof-of-Concept Study on the Use of Large Language Models for Assessing Research Methodology in Neuroimaging. *Neuroscience Informatics*, 100262.

- Investigation, Methodology, Writing—Review & Editing

Sadil, P., & Lindquist, M. A. (2026). From maps to models: A survey on the reliability of small studies of task-based fMRI. *Imaging Neuroscience*; 4 IMAG.a.1076.

- Conceptualization, Methodology, Software, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing—Original Draft, Writing—Review & Editing, Visualization

Jung, H., Amini, M., Hunt, B. J., Murphy, E. I., **Sadil, P.**, Halchenko, Y. O., ... & Wager, T. D. (2025). Spacetop: A multimodal fMRI dataset unifying naturalistic processes with a rich array of experimental tasks. *Scientific Data*, 12(1), 1465.

- Data Curation, Software, Writing—Review & Editing

Sadil, P., & Lindquist, M. A. (2024). Comparing automated subcortical volume estimation methods; amygdala volumes estimated by FSL and FreeSurfer have poor consistency. *Human Brain Mapping*, 45(17), e70027.

- Conceptualization, Methodology, Software, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing—Original Draft, Writing—Review & Editing, Visualization

Halchenko, Y. O., Goncalves, M., Ghosh, S., Velasco, P., Oleggio Castello, M. V. di, Salo, T., Wodder, J. T., Hanke, M., **Sadil, P.**, Gorgolewski, K. J., Ioanas, H.-I., Rorden, C., Hendrickson, T. J., Dayan, M., Houlihan, S. D., Kent, J., Strauss, T., Lee, J., To, I., ... Kennedy, D. N. (2024). HeuDiConv – flexible DICOM conversion into structured directory layouts. *Journal of Open Source Software*, 9(99), 5839.

- Software

Sadil, P., Cowell, R. A., & Huber, D. E. (2023). The push-pull of serial dependence effects: Attraction to the prior response and repulsion from the prior stimulus. *Psychonomic Bulletin & Review*, 31, 259–273.

- Conceptualization, Methodology, Software, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing—Original Draft, Writing—Review & Editing, Visualization

Sadil, P., Cowell, R. A., & Huber, D. E. (2022). A modeling framework for determining modulation of neural-level tuning from non-invasive human fMRI data. *Communications Biology*, 5(1244), 1–12.

- Conceptualization, Methodology, Software, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing—Original Draft, Writing—Review & Editing, Visualization

Cowell, R. A., Barense, M. D., & **Sadil, P.** (2019). A Roadmap for Understanding Memory: Decomposing Cognitive Processes into Operations and Representations. *eNeuro*, 6(4).

- Conceptualization, Writing—Review & Editing

Sadil, P., Cowell, R. A., & Huber, D. E. (2019). A hierarchical Bayesian state trace analysis for assessing monotonicity while factoring out subject, item, and trial level dependencies. *Journal of Mathematical Psychology*; 90, 118–131.

- Conceptualization, Methodology, Software, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing—Original Draft, Writing—Review & Editing, Visualization

Sadil, P., Potter, K. W., Huber, D. E., & Cowell, R. A. (2019). Connecting the dots without top-down knowledge: Evidence for rapidly-learned low-level associations that are independent of object identity. *Journal of Experimental Psychology: General*; 148(6), 1058–1070.

- Conceptualization, Methodology, Software, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing—Original Draft, Writing—Review & Editing, Visualization

Ross, D. A., **Sadil, P.**, Wilson, M. D., & Cowell, R. A. (2017). Hippocampal Engagement during Recall Depends on Memory Content. *Cerebral Cortex*; 28(8), 2685–2698.

- Conceptualization, Methodology, Software, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing—Original Draft, Writing—Review & Editing, Visualization

Sadil, P., & Cowell, R. A. (2017). A Computational Model of Perceptual and Mnemonic Deficits in Medial Temporal Lobe Amnesia. *Journal of Cognitive Neuroscience*; 29(6), 1075–1088.

- Conceptualization, Methodology, Software, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing—Original Draft, Writing—Review & Editing, Visualization

Sadil, P., & Cowell, R. A. (2016). A Computational Model of Perceptual Deficits in Medial Temporal Lobe Amnesia. *Proceedings of the 38th Annual Meeting of the Cognitive Science Society*.

- Conceptualization, Methodology, Software, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing—Original Draft, Writing—Review & Editing, Visualization

Deposited in a Pre-Print Server

Ren, Z., **Sadil, P.**, & Lindquist, M. A. (2026). MV-ComBat and MV-CovBat: Multivariate Frameworks for Joint Harmonization of Multi-Metric Neuroimaging Data. *bioRxiv*, 2026-02.

- Data Curation, Writing—Review & Editing

Ansari, B., **Sadil, P.**, Ford, J., Taub, M., Kahn, A., Urrutia, J., ... & Acute to Chronic Pain Signatures Consortium. (2026). Data Quality Assurance Tool for the Acute to Chronic Pain Signatures Study (A2CPS): An Interactive R Shiny Application. *medRxiv*, 2026-01.

- Data Curation, Writing—Review & Editing

Sadil, P., Arfanakis, K., Bhuiyan, E. H., Caffo, B., Calhoun, V. D., Clauw, D. J., ... & Acute to Chronic Pain Signatures Consortium. (2024). Image Processing in the Acute to Chronic Pain Signatures (A2CPS) Project. *bioRxiv*, 2024-12.

- Methodology, Software, Validation, Formal Analysis, Investigation, Data Curation, Writing—Original Draft, Writing—Review & Editing, Visualization

PRACTICE ACTIVITIES

Media Dissemination

Social Media, Podcasts, Blog Posts, Videos

Blog: <https://psadil.github.io/psadil/posts.html> (Google Analytics reported active users in 2026: 690)

Software and Other Product Development

Maintainer

Maintainer of diverse open-source scientific software packages on conda-forge, facilitating reproducible research across Python and R ecosystems.

Responsibilities include managing the cross-platform distribution of dependencies for medical and neuroimaging data processing, such as DICOM image decoding plugins (pylibjpeg) CIFTI format handlers (r-cifitools), and the multiscale graph correlation framework (r-mgc). These efforts ensure reliable deployment and continuous integration for complex, data-intensive computational workflows.

[conda-forge/pylibjpeg-libjpeg-feedstock](#) (2025–Present: 30k downloads)

[conda-forge/pylibjpeg-rle-feedstock](#) (2025–Present: 13k downloads)

[conda-forge/pylibjpeg-openjpeg-feedstock](#) (2025–Present: 16k downloads)

[conda-forge/r-cifitools-feedstock](#) (2025–Present: 3.4k downloads)

[conda-forge/r-mgc-feedstock](#) (2025–Present: 2.7k downloads)

[conda-forge/tapipy-feedstock](#) (2026–Present: <1k downloads)

Contributor

Code contributor to foundational open-source neuroimaging ecosystems dedicated to reproducible fMRI and dMRI preprocessing, automated quality control, and data standardization (NiPreps, Nilearn, Nipy).

[nipreps/smriprep](#)

[nipreps/fmriprep](#)

[nipreps/mriqc](#)

[PennLINC/qsiprep](#)

[nipy/heudiconv](#)

[nilearn/nilearn](#)

Other Practice Activities

Data Steward

Curate and maintain large-scale neuroimaging datasets across public open-science repositories (OpenNeuro) and institutional high-performance computing environments (JHPCE Data Catalog). Responsibilities include rigorous data standardization, metadata management, and the maintenance of long-term data integrity. This centralized curation provides researchers with reliable, compute-ready datasets, accelerating downstream analytical pipelines and fostering reproducible research practices.

OpenNeuro: Maintainer for [SpatialTopology](#)

JHPCE Database Catalog: Steward for 5 Datasets

PART II

RESEARCH AND PRACTICE FUNDING

External Sponsored Grants and Contracts

Data Center for Acute to Chronic Pain Biosignatures, 2021–Present, NIH

PIs: Martin Lindquist, Tor Wager

Amount: \$979,755

Role: Key Personnel (Software, Analysis, Data Curation, Reporting)

Objective: Test putative biomarkers for, develop biosignatures of, and improve understanding of the transition from acute injury to chronic pain.

Cerebellar Stimulation for Aphasia Rehabilitation, 2023–Present, NIH

PIs: Rajani Sebastian

Amount: \$740,758

Role: Key Personnel (Data Curation, Preprocessing)

Objective: Evaluate effectiveness of transcranial direct current stimulation to enhance effectiveness of post-stroke speech and language treatment.

Generalizability of neuroimaging-based biomarkers, 2021–2022, Oracle

PI: Patrick Sadil

Amount: \$50,000

Role: PI

Objective: Test the resilience of neuroimaging predictive models to dataset shifts.

Individualized spatial topology in functional neuroimaging, 2021–2022, NIH

PI: Martin Lindquist, Tor Wager, Abhirup Datta

Amount: \$692,050

Role: Key Personnel (Data Curation and Preprocessing)

Objective: Provide new methods of modeling functional neuroimaging topography, making topographical inferences, and making inferences about the topological and geometrical spaces underlying human brain representations.

Using fMRI to Measure the Neural-level Signals Underlying Population-level Responses, 2017-2022, NIH

PI: Rosemary A. Cowell, David E. Huber

Role: Key Personnel (Data Collection, Data Curation, Analyses, Reporting)

Amount: \$2,366,079

Objective: Develop new methods for inferring neural activity and modulations to neural responses given signals provided by functional neuroimaging.

PRESENTATIONS

Scientific Meetings

Sadil, P., on Behalf of the A2CPS Consortium (2025). Image Processing in the Acute to Chronic Pain Signatures (A2CPS) Project. Poster presented at the 2025 Society for Neuroscience Meeting.

Sadil, P. & Lindquist, M.A. (2025). Amygdala Volumes Estimated by FSL and FreeSurfer Have Poor Consistency. Poster presented at the 2025 Annual Meeting of the Organization for Human Brain Mapping.

Sadil, P., ..., & Lindquist, M. (2025). The State of Motion: A survey of motion-related artifacts in fMRI studies. Poster presented at the 2025 Annual Meeting of the Organization for Human Brain Mapping.

Sadil, P., ..., on Behalf of the A2CPS Consortium. (2024). Image Processing in the Acute to Chronic Pain Signatures (A2CPS) Project. Poster presented at the 2025 Annual Meeting of the Organization for Human Brain Mapping.

Sadil, P., Farahani, Farzad V., Nath, T., & Lindquist, M. (2023). Assessing generalizability of predictions of age from anatomical images with 3DCNN. Poster presented at the 2023 Annual Meeting of the Organization for Human Brain Mapping.

Sadil, P., Farahani, Farzad V., Nath, T., & Lindquist, M. (2022). Reliability of effect sizes and spatial localization with population-level sample sizes. Poster presented at the 2022 Annual Meeting of the Organization for Human Brain Mapping.

Sadil, P., Cowell, R. A., & Huber, D. E. (2020). The serial dependence effect is both attraction to the previous response and repulsion from the previous stimulus. Poster presented at the 61st annual Psychonomics Society Meeting. Virtual.

Sadil, P., Cowell, R. A., & Huber, D. E. (2019). A hierarchical Bayesian state trace analysis for assessing monotonicity factoring out subject, item, and trial level dependencies. Poster presented at the 52nd Annual Meeting of the Society for Mathematical Psychology Montreal, Quebec. CA.

Sadil, P., Huber, D. E., & Cowell, R. A. (2018). A hierarchical Bayesian model for inferring neural subpopulation tuning functions from fMRI. Poster presented at the 1st Annual UMass Interdisciplinary Neurosciences Conference. Amherst, MA.

Sadil, P., Huber, D. E., & Cowell, R. A. (2018). A hierarchical Bayesian model for inferring neural tuning functions from voxel tuning functions. Talk given at the annual Vision Science Society Meeting. St. Pete Beach, Florida.

Sadil, P., Huber, D. E., & Cowell, R. A. (2018). Episodic-like retrieval mechanisms for non-episodic memories: Visual recollection in the absence of identification. Talk given at the 14th annual Context and Episodic Memory Symposium. Philadelphia, PA.

Sadil, P., Huber, D.E., & Cowell, R.A. (2017). A novel method for fMRI analysis: Inferring neural mechanisms from voxel tuning. Poster presented at the 1st annual Conference on Cognitive Computational Neuroscience. New York, NY.

Sadil, P., Potter, K., Huber, D. E., & Cowell, R. A. (2017). A continuous flash suppression study of implicit visual recollection. Talk given at the 13th annual Context and Episodic Memory Symposium. Philadelphia, PA.

Sadil, P., Huber, D. E., & Cowell, R. A. (2016). Computational model of perceptual deficits in medial temporal lobe amnesia. Poster presented at the 12th annual Context and Episodic Memory Symposium. Philadelphia, PA.

Sadil, P., Potter, K., Huber, D. E., & Cowell, R. A. (2016). A continuous flash suppression study of implicit visual recollection. Poster presented at the 57th annual Psychonomics Society Meeting. Boston, MA.

Sadil, P., Huber, D. E., & Cowell, R. A. (2015). Visual recollection. Poster presented at the 11th annual Context and Episodic Memory Symposium. Philadelphia, PA.

Invited Seminars

Sadil, P., Cowell, R. A., & Huber, D. E. (2022). Uncovering the neural and behavioral factors that underlie changes in processing visual orientation. Invited talk given at Arizona State University seminar series.

ADDITIONAL INFORMATION

As a Research Associate, I specialize in data engineering, an essential component of large-scale neuroimaging research. My work addresses the technical bottleneck between raw data acquisition and biostatistical discovery by building robust, reproducible processing pipelines for multi-site consortia, such as the Acute to Chronic Pain Signatures (A2CPS) project. Beyond project-specific research, I provide foundational infrastructure for the scientific community by maintaining high-volume software feedstocks and serving as a data steward and curator for datasets on local, high-performance computing resources. By integrating software engineering rigor with statistical validation, I ensure that complex neuroimaging datasets are high-quality, standardized, and computationally ready for population-level analysis.

Research Impact: Enhancing Methodological Reliability

My research program identifies and addresses critical methodological "blind spots" in neuroimaging. This includes evaluating the consistency of automated subcortical volume estimation—demonstrating poor consistency between tools like FSL and FreeSurfer—and surveying the reliability of task-based fMRI in small-sample studies. By developing hierarchical Bayesian models to disentangle complex behavioral effects, such as serial dependence, I provide the field with the statistical tools necessary to interpret nuanced neural signals.

Practice Leadership: Building Global Software Infrastructure

A core component of my portfolio is a commitment to the global open-source ecosystem. I maintain critical infrastructure within the conda-forge community, including the pylibjpeg feedstocks, which support tens of thousands of users worldwide. Within the neuroimaging community, I actively contribute to the nipreps ecosystem, where I contribute to high-impact pipelines including fMRIPrep, and MRIQC.
