

Junaid Salim Merchant | Curriculum Vitae

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EDUCATION

Ph.D. Neuroscience and Cognitive Science (NACS) Program | 2018 - 2022 (expected)

Computation and Mathematics for Biological Networks (COMBINE) Fellow

University of Maryland, College Park, MD

Advisor: Elizabeth Redcay

M.S. Experimental Psychology: Behavioral Neuroscience Concentration | 2010

Seton Hall University, South Orange, NJ

Graduated with Highest Distinction

B.A. Psychology & Art | 2006

University of North Carolina Asheville

PROFESSIONAL WORK & RESEARCH EXPERIENCE

Graduate Research Assistant. DSCN Lab, University of Maryland | 2018 - Current

Research projects examining a) functional connectivity-based decoding of joint and solo attention states when watching videos with another vs. alone, and b) shared neural representations between social interaction and mentalizing. Developmental Social Cognitive Neuroscience Lab, PI: [Elizabeth Redcay](#)

Research Associate. Developmental CogNeuro Lab (DCNL), Georgetown University | 2016 - 2018

Data analyst, programmer & protocol developer for RDoC R01 examining executive function dimensions across pediatric psychiatric disorders; a large-scale, data-driven approach. PI: [Chandan Vaidya](#)

Research Associate. Oregon Eating Study, University of Oregon | 2015 - 2016

Coordinator, analyst & protocol developer for longitudinal R01 examining neural & behavioral predictors of eating change in people at risk for weight related cancer issues. PIs: [Elliot Berkman](#) & [Nicole Giuliani](#)

Research Assistant & Analyst. SAN and DSN Labs, University of Oregon | 2012 - 2015

Data analyst, research coordinator & fMRI methods training specialist in the Social and Affective Neuroscience & Developmental Social Neuroscience Labs. PIs: [Elliot Berkman](#) & [Jennifer Pfeifer](#)

Lab Manager. SAN and DSN Labs, University of Oregon | 2010 - 2012

Administrative assistant, research coordinator & analyst in the Social and Affective Neuroscience (SAN) & Developmental Social Neuroscience (DSN) Labs. PIs: [Elliot Berkman](#) & [Jennifer Pfeifer](#)

Research Assistant. Stroke Lab, Kessler Foundation Research Center | 2009 - 2010

Neuropsychological and clinical assessment of stroke patients with unilateral neglect. PI: [Anna Barrett](#)

Graduate Research Assistant. Seton Hall University | 2008 - 2010

Data collection/analysis in cog psych and behavioral neuroscience labs. PIs: [Kelly Goedert](#) & [Amy Silvesteri](#)

Research Assistant. University of North Carolina Charlotte, Psych Dept | 2006 - 2008

Data collection in the Pain Lab & Cognitive Control and EEG Lab. PIs: [Nakia Gordon](#) & [Mark Faust](#)

Resident Trainer. Mountain Area Residential, Asheville NC | 2004 - 2006

Resident trainer for adults with developmental disorders & TBI with life skills for independent living.

Research Assistant. University of North Carolina Asheville, Psych Dept | 2003 - 2006
Collected, analyzed, & presented eye-tracking study on attention & word recognition. Advisor: Tracy Brown

AWARDS AND HONORS

2nd place in the Computational Social & Affective Neuroscience Data Competition | 2022
Outstanding Graduate Assistant Award Top 2% of UMD Graduate Students | 2021-2022
Broadening Participation Grant: Open Science Training Develop fMRI Workshop at UMD | 2022
Social & Affective Neuroscience Society: Diversity Award support for Annual Conference | 2021

TALKS AND TEACHING EXPERIENCE

Representational Similarity Analysis: Background, Methods, and Social Neuroscience Applications. George Washington University Invited CogNeuro Brownbag Talk | Oct, 2021

Hands-On Introduction to UMD's High Performance Computing Resources for the High Performance Researcher. UMD COMBINE Workshop | Feb, 2021
www.combine.umd.edu/peer-to-peer-tutorials-high-performance-computing-tools/

Intro to Preregistration in Neuroimaging. Brainhack Global Unconference | Dec, 2020

Neural Similarity Between Social Interaction and Mentalizing. Nathan Fox Lab - UMD College of Education Invited Talk | July, 2020

WTfMRIprep: fMRIprep Tutorial. Maryland Neuroimaging Center Seminar | 2020
Introduction to BIDS, overview of fMRIprep options and pipeline, and tutorial on implementation.

WTfMRIprep: fMRIprep Workshop. Brainhack Global DC | 2019

Introduction to Supercomputing. NACS Methods Seminar | 2019
Tutorial on using high performance computing clusters for neuroscience research.

fMRI Functional Connectivity. Georgetown University | 2018
Two-part guest lecture for Brain Networks and Cognition graduate course.

Supercomputing for Neuroimaging. fMRI Methods Seminar, Georgetown University | 2017

Power Analysis. fMRI Methods Seminar, Georgetown University | 2016
Two-hour workshop on different tools for calculating statistical power in fMRI research.

Oregon Computing Cluster for fMRI. University of Oregon Imaging Center Lecture | 2015

Teaching Assistant. Psychology Research Methods/Stats, University of Oregon | 2012 - 2013
Led two sections per semester of the lab portion for the undergraduate psychology research methods class.

Teaching Assistant. Graduate fMRI Methods Course, University of Oregon | 2011
Led the hands-on, lab portion of the graduate course on fMRI Methods.

Teaching Assistant. Statistics for Psychology, Seton Hall University | 2009 - 2010
Guest lecturer, tutor, and assistant for undergraduate statistics course in the psychology department.

SERVICE

Organizer NACS Methods Seminar. University of Maryland | 2019 - Current
Co-Organizer Brainhack Global DC. NIH, Georgetown, & U of Maryland | 2018 - Current
Volunteer Coordinator. Silver Spring/Takoma Park Mutual Aid Group | 2020 - Current
Founder & Organizer of fMRI Methods Journal Club. Georgetown University | 2016 - 2018
Brain Awareness Week Volunteer. Georgetown University & University of Maryland | 2016 - 2019
Summer Academy to Inspire Learning Volunteer. University of Oregon | 2014 - 2016

ADDITIONAL TRAINING & CERTIFICATIONS

AFNI Bootcamp. NIH, Bethesda, MD | 2019
Neurohackweek. University of Washington, Seattle, WA | 2016
MRI Operator Certificate. Center for Neuroimaging, U of Oregon, Eugene, OR | 2015

TECHNICAL SKILLS

MRI Software/Toolboxes: Expertise in SPM, AFNI, fMRIPrep, CoSMoMVPA, Decoding Toolbox. Proficient in FSL & Freesurfer. Experience with NiPype, NiBabel & Connectome Workbench.

Statistical Software: Expertise in MATLAB, R, Python, JASP & SPSS.

Other: Expertise in Bash/Shell, Linux, SLURM & SGE job scheduling. Proficient in Docker & Singularity containerized environments.

PUBLICATIONS

Merchant, J.S., Alkire, D., & Redcay, E. (2022). Neural Similarity between mentalizing and live social interaction during the transition to adolescence. *Human Brain Mapping*, 43(13), 4074–4090. <https://doi.org/10.1002/hbm.25903>

Kaminski, A., You, X., Flaharty, K., Jeppsen, C., Li, S., **Merchant, J. S.**, Berl, M. M., Kenworthy, L., & Vaidya, C. J. (2022). Cingulate-Prefrontal Connectivity During Dynamic Cognitive Control Mediates Association Between P-Factor and Adaptive Functioning in a Transdiagnostic Pediatric Sample. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*. <https://doi.org/10.1016/j.bpsc.2022.07.003>

Dziura, S., **Merchant, J. S.**, Alkire, D., Rashid, A., Shariq, D., Moraczewski, D., & Redcay, E. (2021). Effects of social and emotional context on neural activation and synchrony during movie viewing. *Human brain mapping*, 10.1002/hbm.25669.

Cook, K. M., You, X., Cherry, J. B., **Merchant, J. S.**, Skapek, M., Powers, M. D., ... & Vaidya, C. J. (2021). Neural correlates of schema-dependent episodic memory and association with behavioral flexibility in autism spectrum disorders and typical development. *Journal of neurodevelopmental disorders*, 13(1), 1-16.

Gau, R., Noble, S., Heuer, K., Bottenhorn, K., Bilgin, I. P., Yang, Y. F., ... **Merchant, J. S.** .. & Zuo, X. N. (2021). Brainhack: developing a culture of open, inclusive, community-driven neuroscience. *Neuron*, 109(11), 1769-1775.

Merchant, J. S., Cosme, D., Giuliani, N. R., Dirks, B., & Berkman, E. T. (2020). Neural Substrates of Food Valuation and Its Relationship With BMI and Healthy Eating in Higher BMI Individuals. *Frontiers in behavioral neuroscience*, 14, 578676.

Giuliani, N. R., Cosme, D., **Merchant, J. S.**, Dirks, B., & Berkman, E. T. (2020). Brain activity associated with regulating food cravings predicts changes in self-reported food craving and consumption over time. *Frontiers in human neuroscience*, 14.

Loewenstern, J., You, X., **Merchant, J.**, Gordon, E. M., Stollstorff, M., Devaney, J., & Vaidya, C. J. (2019). Interactive effect of 5-HTTLPR and BDNF polymorphisms on amygdala intrinsic functional connectivity and anxiety. *Psychiatry Research: Neuroimaging*, 285, 1-8.

Giuliani, N. R., **Merchant, J. S.**, Cosme, D. & Berkman, E. T. (2018) Neural predictors of dietary change. *Annals of the New York Academy of Sciences*. 1428(1): 208-220.

Pfeifer, J. H., Mahy, C., **Merchant, J. S.**, Chen, C., Masten, C. L., Fuligni, A. J., Lieberman, M. D., Lessard, J., Dong, Q., & Chen, C. (2017). Neural systems for reflected and direct self-appraisals in Chinese young adults: Exploring the role of the temporal-parietal junction. *Cultural Diversity and Ethnic Minority Psychology*, 23(1), 45.

Jankowski, K. F., Moore, W. E. III, **Merchant, J. S.**, Kahn, L. E., & Pfeifer, J. H. (2014). But do you think I'm cool? Developmental differences in striatal recruitment during direct and reflected social self-evaluations. *Developmental Cognitive Neuroscience*, 8, 40-54.

Berkman, E.T., Kahn, L.E., & **Merchant, J.S.** (2014). Training-induced changes in inhibitory control network activity. *Journal of Neuroscience*, 34(1), 149-157.

Moore, W. E. III, **Merchant, J. S.**, Kahn, L. E., & Pfeifer, J. H. (2014). 'Like me?': Ventromedial prefrontal cortex is sensitive to both personal relevance and self-similarity during social comparisons. *Social Cognitive and Affective Neuroscience*, 9, 421-426.

Pfeifer, J. H., Kahn, L. E., **Merchant, J. S.**, Peake, S. A., Veroude, K., Masten, C. L., Lieberman, M. D., Mazziotta, J. C., & Dapretto, M. (2013). Longitudinal change in the neural bases of adolescent social self-evaluations: Effects of age and pubertal development. *Journal of Neuroscience*, 24, 7415-7419.

Pfeifer, J. H., **Merchant, J. S.**, Colich, N., Hernandez, L., Rudie, J., & Dapretto, M. (2013). Neural and behavioral responses during self-evaluative processes differ in youth with and without autism. *Journal of Autism and Developmental Disorders*, 2, 272-285.

Gordon, N.S., **Merchant, J.S.**, Zanbaka, C., Hodges, L.F., & Goolkasian, P. (2011). Interactive gaming reduces experimental pain with or without a head mounted display. *Computers in Human Behavior*, 27, 2123-2128.

Zeidan, F., Gordon, N.S., **Merchant, J.S.**, & Goolkasian, P. (2009). The effects of brief mindfulness meditation training on experimentally induced pain. *Journal of Pain*, 11, 199-209.

MANUSCRIPTS UNDER REVIEW AND IN PREPARATION

McNaughton, K., Anderson, L., Warnell, K. R., Alkire, D., **Merchant, J. S.**, Moraczewski, D., Yarger, H., & Redcay, E. (*under review*). Neural sensitivity to social interaction predicts success of real-world peer interaction in children with typical development and autism spectrum disorder.

Merchant, J.S., Glaros, S., Moy, S., Edakoth, E., & Redcay, R. (*in prep*). Meta-analysis of fMRI studies using live, social-interactive approaches.

Merchant, J.S., Shariq, D., Dziura, S., Xie, H., Rashid, A., & Redcay, R. (*in prep*). Social similarity and joint attention to emotional videos.

SELECT CONFERENCE PRESENTATIONS

Merchant, J. S., Glaros, S., Moy, S., & Redcay, E. (2021, May). Coordinate-based Meta-Analysis of Social Interaction. Poster accepted at the Social and Affective Neuroscience Society's Annual Conference.

Merchant, J. S., Shariq, D., & Redcay, E. (2021, May). fMRI Investigation of Social Context During Emotional Moving Viewing. Poster accepted at the Society for Affective Science Annual Conference.

Merchant, J. S., Dziura, S., Alkire, D., Shariq, D., Rashid, A., & Redcay, E. (2020, June). *Neurocognitive systems underlying shared attention to videos*. Poster presented at the annual meeting of the Organization for Human Brain Mapping, Montreal, Canada.

Merchant, J. S., Alkire, D., Dziura, S., Redcay, E. (2020, May CANCELLED). *Neural similarity between mentalizing and live peer interaction*. Poster accepted for the annual meeting of the Social and Affective Neuroscience Society, Santa Barbara, CA.

Merchant, J. S., Alkire, D., Dziura, S., McNaughton, K., Redcay, E. (2019, August). *Examining neural similarity between live peer interaction and mentalizing*. Poster presented at the annual Flux Congress, NYC, NY.

Merchant, J. S., Alkire, D., Dziura, S., Rashid, A., Shariq, D., Moraczewski, D., & Redcay, E. (2019, May). *Decoding joint attention to emotional videos using fMRI*. Poster presented at the annual meeting of the Social and Affective Neuroscience Society, Miami, FL.

Merchant, J. S., Cherry, J.B., Skapek, M., Powers, M., Rau, S. Myrick, Y., You, X., Berl, M., Kenworthy, L., & Vaidya, C.J. (2018, June). *Data-driven characterization of executive function comorbidity across pediatric psychiatric disorders*. Poster presented at the annual meeting of the Organization for Human Brain Mapping, Singapore.

Merchant, J. S., You, X., Ludlum, R., Dudley, K., Gaillard, W., Kenworthy, L., & Vaidya, C.J. (2017, June). *Atypical prefrontal engagement during adaptive executive control in Autism Spectrum Disorders*. Poster presented at the annual meeting of the Organization for Human Brain Mapping, Vancouver, Canada.

Lynch, C. L., **Merchant, J. S.**, & Vaidya, C. J. (2017, September). *Replicable brain-cognition correlations require larger sample sizes*. Poster presented at the inaugural Conference on Cognitive Computational Neuroscience, New York, NY.

REFERENCES

Dr. Elizabeth Redcay | Associate Professor, University of Maryland – Psychology
redcay@umd.edu | 301-405-7612

Dr. Luiz Pessoa | Professor, University of Maryland – Psychology
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Dr. Alexander Shackman | Associate Professor, University of Maryland – Psychology
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Dr. Chandan Vaidya | Professor, Georgetown University – Psychology
cjv2@georgetown.edu | 202-687-9133

Dr. Xiaozhen You | Assistant Professor, Children’s National Health System – Neuroscience
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Dr. Elliot Berkman | Associate Professor, University of Oregon – Psychology
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Dr. Jennifer Pfeifer | Associate Professor, University of Oregon – Psychology
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Dr. Nicole Giuliani | Assistant Professor, University of Oregon – College of Education
giuliani@uoregon.edu | 541-346-2194

Dr. Kelly Goedert | Professor, Seton Hall University – Psychology
kelly.goedert@shu.edu | 973-275-2703

LINKS

GitHub | <https://github.com/JunaidMerchant>

Twitter | [@junaidmerchant](https://twitter.com/junaidmerchant)

OSF | osf.io/85skm

Lab | <http://www.dscn.umd.edu/DSCN/home.html>

Graduate Profile | <https://nacs.umd.edu/gradprofile/merchant/junaid>