John C. Flournoy, PhD

Computational Research Scientist, Stats Maven

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Education

Ph.D., Psychology, University of Oregon, 2018
M.S., Psychology, University of Oregon, 2014
B.A., Cognitive Science, University of California at Berkeley, 2005

Academic Appointments

- Associate of the Department of Psychology (Courtesy Appointment), Harvard University, 2024 - Present

Research

Developer Success Lab, Pluralsight — *Principal Research Scientist*

2024 - 2025

- Lead scientist surfacing qualitative insights from infrastructure devs
- Lead scientist on analysis of yearly ticket data from over 11k developers
- Drove organizational insights across multiple research projects to remove barriers to learning and hone organizational strategy.
- Spearheaded community engagement overlay journal at dsl.pubpub.org.

Harvard University, Cambridge, MA — *Research Associate*

2020 - 2024 (Postdoctoral Fellow, 2018 - 2020)

- Lead analyst on intensive longitudinal fMRI neuroimaging study examining method reliability and reporting on mechanisms linking stress to psychopathology in adolescents.
- Designed intensive longitudinal digital phenotyping of stress, sleep, digital communication, and physical activity leading to 3 publications. NIMH grant R37-MH119194 ($9,034,169)
- Analyzed multi-site, longitudinal fMRI data of adolescent cognitive control and reward (NIMH grant U01-MH109589; $17,141,357).
- Provided methodology and scientific computing support to 8 graduate students, 15 post-bac RAs, and 9 post-docs, across 2 lab groups

University of Oregon, Eugene, OR — *Graduate Research Fellow*

2012 - 2018

- Developed hierarchical Bayesian model of reinforcement learning to examine adolescent social motives as causes of health risking behavior.
- Collected data from more than 300 participants including foster-care-involved adolescents with a team of research assistants.
- Analyzed longitudinal personality and fMRI task data using MLM & SEM.
- Validated new self report and task measures

Skills

- Autodidact
- Bayesian modeling
- Causal inference
- Collaborative science
- Cloud computing
- Data visualization
- Git and GitHub
- Human participants research
- Machine learning
- Missing data
- Multilevel modeling
- Psychometrics
- Qualitative Methods
- R, Stan, Python, SQL
- Research design
- Structural Equation Modeling
- Transparent and open science

R Packages ⏻

`riclpmr`: generate syntax for random intercept cross-lag panel models.

`curvish`: (alpha) Bayesian analysis and visualization of GAM smooths using 1st and 2nd derivatives.

`scorequaltrics`: retrieve and score data from Qualtrics using csv templates.

Special Training

Neurohackweek, 2016
- Python programming and neuroinformatics

ICPSR Summer Program in Quantitative Methods of Social Research, 2015
- Causal Inference for the Social Sciences
- Advanced Bayesian Models for the Social Sciences

Stanford University, Stanford, CA — *Research Coordinator*
2009 - 2012
- Coordinated Simons Foundation-funded study examining link between sleep problems and symptoms in autism spectrum disorder.
- Site coordinator for a registered clinical trial of the efficacy of a novel PET marker of cerebral β-amyloid in patients with dementia.

Selected Publications
See [google scholar](#) for the full list of more than 25 peer-reviewed articles

Flournoy, J. C., Lee, C. S., Wu, M., & Hicks, C. M. (2025). No Silver Bullets: Why Understanding Software Cycle Time is Messy, Not Magic (No. arXiv:2503.05040). *arXiv*. (Under review at *Empirical Software Engineering*)

Flournoy, J. C., Bryce, N. V., Dennison, M. J., Rodman, A. M., McNeilly, E. A., Lurie, L. A., ... & McLaughlin, K. A. (2024). A precision neuroscience approach to estimating reliability of neural responses during emotion processing: Implications for task-fMRI. *NeuroImage*, *285*, 120503.

Bryce, N., **Flournoy, J.C.**, Moreira, J. F. G., Rosen, M. L., Sambook, K. A., Mair, P., & McLaughlin, K. A. (2021). Brain parcellation selection: An overlooked decision point with meaningful effects on individual differences in resting-state functional connectivity. *NeuroImage*, 118487.

Flournoy, J. C., Vijayakumar, N., Cheng, T. W., Cosme, D., Flannery, J. E., & Pfeifer, J. H. (2020). Improving practices and inferences in developmental cognitive neuroscience. *Developmental cognitive neuroscience*, 100807.

Ludwig, R. M., **Flournoy, J. C.**, & Berkman, E. T. (2019). Inequality in personality and temporal discounting across socioeconomic status? Assessing the evidence. Journal of research in personality, 81, 79-87.

Matta, T. H., **Flournoy, J. C.**, & Byrne, M. L. (2018). Making an unknown unknown a known unknown: Missing data in longitudinal neuroimaging studies. *Developmental cognitive neuroscience*, 33, 83-98.

Selected Teaching & Talks
November, 2021. *Why and How to Care About Covariates in Longitudinal Data*. Presented at the 7th Annual UC Adolescence Consortium Institute.

July 2021. Instructor at [*ABDC Workshop: Modeling Developmental Change*](#) *(online):* Data science tools tutorials, Structural Equation Modeling (SEM): Theory, Structural Equation Modeling (SEM): Hands-on tutorial

May 2021. *Scientific Practice in Developmental Cognitive Neuroscience*. Presented at the Lifespan Informatics and Neuroimaging Center, Department of Psychiatry, University of Pennsylvania Perelman School of Medicine.

May 2019. *Machine learning as a tool for diagnosis and theory testing*. Presented as part of the Institute for Technology in Psychiatry Seminar Series, McLean Hospital, Boston, MA.

Awards

The Sackler Scholar Programme in Psychobiology Research Grant, 2019

Gary E. Smith Summer Professional Development Award, 2015

Clarence and Lucille Dunbar Scholarship , 2014