

Postdoc Position at Stanford University - Leveraging big data to understand the neurobiological underpinnings of reading and math abilities

The Yeatman (Stanford University) and Rokem (University of Washington) labs have 2 years of funding for a jointly mentored postdoc who is interested in capitalizing on new innovations in data science and diffusion MRI methods to understand the neurobiological underpinnings of reading and math abilities. With the emergence of public datasets containing tens of thousands of subjects (e.g., ABCD, Healthy Brain Network, Human Connectome Project, PING, etc.) there are new opportunities to apply computational approaches to understanding the multivariate relationship between white matter development and academic skills. Beyond identifying correlations between a single behavioral measure and diffusion properties in a single white matter tract, we would like to progress towards a model characterizing how the interrelated developmental trajectories of the brain's many white matter connections relate to different components of academic development (e.g., reading, math, executive function). This project would involve working with large, publicly available datasets, and developing/applying new statistical approaches to relate measures of brain anatomy to cognitive skills.

Related work: Yeatman J.D., Richie-Halford A., Smith J.K., Keshavan A., Rokem A. (2018). A browser-based tool for visualization and analysis of diffusion MRI data. *Nature Communications*. 9(1):940. [Link](#)

Starting Salary range: \$65,000- \$75,000/yr depending on experience.

Applicants should have a PhD in neuroscience, psychology, or related fields, or a PhD in computer science, statistics, physics or engineering fields, and an interest in rapidly learning about measurements of the living human brain. Either way, the ideal candidate should possess strong computational skills, proficiency programming in Python and familiarity with MATLAB. Experience with diffusion MRI data analysis or other related neuroimaging is a plus but not required. Must enjoy working in a fast-paced, collaborative and open environment, and have strong writing and communication skills.

Start date: Fall, 2019 or Winter 2020

To apply, please send:

- 1) A curriculum vitae
- 2) Link to a github repo for a previous project
- 3) Contact information for three references
- 4) A one- or two-paragraph letter (less than 1 page) describing a finding from you PhD (or previous postdoc) research that you are excited about and what you are excited about tackling as a postdoc or how you see this postdoc fitting in with your career goals.

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