

# Jonathan Nicholas

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## EDUCATION & TRAINING

- 2017 – Now **Columbia University**  
- PhD Candidate; Advisor: Daphna Shohamy
- 2015 – 2017 **Stanford University**  
- Research Staff; Advisor: Vinod Menon
- 2011 – 2015 **Brown University**  
- BS Cognitive Neuroscience with Honors; Advisor: David Badre

## FELLOWSHIPS & AWARDS

- 2017 – 2020 National Science Foundation Graduate Research Fellowship
- 2015 Brown University Kling Premium in Psychology  
Elected to Sigma Xi
- 2014 Karen T. Romer Undergraduate Teaching and Research Award  
Brown Institute for Brain Sciences Neural Decoding Competition Winner

## PUBLICATIONS

- Journals
- 2017 Iuculano, T., **Nicholas, J.**, Chang, T., Metcalfe, A., Menon, V. (2017) Computational modeling reveals weak dynamic neural tuning of problem representations in children with dyscalculia. In Prep.
- Iuculano, T., **Nicholas, J.**, Menon, V. (2017) Unique neural correlates of individual variability in problem solving abilities of children with autism. In Prep.
- Taghia, J., Cai, W., Ryali, S., Kochalka, J., **Nicholas, J.**, Chen, T., Menon, V. (2017) Nonlinear dynamical systems analysis of latent brain states during cognition: optimality and relation to behavior. Submitted.
- 2016 Ryali, S., Supekar, K., Chen, T., Kochalka, J., Cai, W., **Nicholas, J.**, Padmanabhan, A., Menon, V. (2016) Temporal dynamics and developmental maturation of salience, default and central-executive network interactions revealed by variational Bayes hidden Markov modeling. PLOS Computational Biology.
- Posters
- 2017 Cai, W., Duberg, K., Rehert, R., Chen, J., Zhang, K., **Nicholas, J.**, Chen, T., Pennington, B., Hinshaw, S., Nigg, J., Menon, V. (2017) Brain mechanisms of reactive and proactive control in children. Society for Neuroscience, Washington, DC.
- 2016 **Nicholas, J.**, Supekar, K., Menon, V. (2016) Natural language processing of fMRI reveals cognitive learning induced changes in brain circuit dynamics. Fourth Annual Flux Congress, St. Louis, MO.
- Metcalfe, A., Battista, C., **Nicholas, J.**, Mitsven, S., Hundia, R., Iuculano, T., Chen, L., Menon, V. (2016) Rapid, online assessment of children's numerical cognition skills. International Mind, Brain, and Education Society, Toronto, Canada
- 2014 **Nicholas, J.**, Chatham, C., Badre, D. (2014) The temporal dynamics of working memory filtration. 2014 Brown Summer Research Symposium, Providence, RI.

## TEACHING

- 2015 Computational Cognitive Science, TA, Brown University

## TECHNICAL SKILLS

Proficient in Python, Matlab, Javascript  
Competent in R, SQL, Bash, Git, HTML/CSS, Photoshop, Inkscape