

Xi He Xie

CONTACT INFORMATION	Brain Networks Lab (Raj Lab) Department of Neuroscience Weill Cornell Graduate School of Medical Sciences	+1 (917) 584-2108 axiezai@gmail.com xix2007@med.cornell.edu
WEBSITE	https://axiezai.github.io	
RESEARCH INTERESTS	Computational Neuroscience, Connectomics, Data-Driven Methods, Bayesian Inference, Network Theoretics.	
RESEARCH	Dept. of Radiology & Bio-Engineering, University of California San Francisco, San Francisco, CA. Visiting Graduate, May 2018 – Present. <ul style="list-style-type: none">• Postdoctoral Mentor: Dr. Ashish Raj and Dr. Srikantan Nagarajan Dept. of Neuroscience & Brain and Mind Research Institute, Weill Cornell Medicine, Cornell University, New York, NY. Ph.D Candidate, June 2015 – Present <ul style="list-style-type: none">• Ph.D Mentor: Dr. Ashish Raj Dept. of Biomedical Engineering, Grove School of Engineering at CCNY (CUNY), New York, NY. Undergraduate Research Assistant, June 2011 – June 2013 <ul style="list-style-type: none">• Undergraduate Mentors: Dr. Jacek Dmochowski, Dr. Marom Bikson, Dr. Lucas Parra	
EDUCATION	Dept. of Neuroscience, Weill Cornell Graduate School of Medical Sciences, New York, NY. Ph.D Candidate, Computational Neuroscience, June 2015 - Present. <ul style="list-style-type: none">• Dissertation: <i>Emergence of neuronal dynamics from brain structure in multi-modal resting-state brain imaging</i>• Advisor: Dr. Ashish Raj Dept. of Biomedical Engineering, The City College of New York (CUNY), New York, NY. B.S. in Biomedical Engineering, May 2013. <ul style="list-style-type: none">• Final Project: <i>Pressure-regulated tourniquet for clinical intravenous interventions</i>• Research Project: <i>Clinician accessible tools for GUI computational models of transcranial electrical stimulation: BONSAI and SPHERES</i>• Advisor: Dr. Jacek Dmochowski, Dr. Marom Bikson, Dr. Lucas Parra	
STUDENT MENTORING	<i>(joint mentoring with A. Raj)</i> <ol style="list-style-type: none">1. Akanksha (2019-Present, USF Master Student in Data Science)2. QingYi Sun (2019-Present, USF Master Student in Data Science)3. Areez Malik (2019-Present, High School Volunteer)4. Xiao Gao (2018, MS student in Biomedical Imaging)	

PUBLICATIONS

In preparation (to be submitted in 2020)

- X. Xie, C. Cai, P.F. Damasceno, S. Nagarajan, and A. Raj, *Emergence of canonical functional networks from complex Laplacian of structural connectome*.
- X. Xie, A. Kuceyeski, S.A. Shah, N.D. Schiff, S. Nagarajan, and A. Raj, *Parameter Identifiability and Non-Uniqueness in connectome based neural mass models*, [bioRxiv PrePrint Link](#)

Peer-Reviewed Journals

1. A. Raj, C. Cai, X. Xie, E. Palacios, J. Owen, P. Mukherjee, and S. Nagarajan, *Spectral graph theory of brain oscillations*, Human Brain Mapping (2020), pp. 1-16. <https://doi.org/10.1002/hbm.24991>
2. D. Q. Truong, M. Huber, X. Xie, A. Datta, A. Rahman, L. C. Parra, J. Dmochowski, M. Bikson, *Clinician accessible tools for GUI computational models of transcranial electrical stimulation: BONSAI and SPHERES*, Brain Stimulation 7, no. 4 (2014): 521-24. <https://doi.org/10.1016/j.brs.2014.03.009>

OPEN SOURCE
PROJECTS***Pipetography***, Nipype based diffusion MRI pre-/post-processing pipeline. <https://pypi.org/project/pipetography/0.1.0/>***Spectrome***, Spectra and connectome based brain model simulation. <https://github.com/Raj-Lab-UCSF/spectrome>***Cortography***, Utilities for manipulating cortical atlases of the human brain. <https://github.com/Raj-Lab-UCSF/cortography>SELECTED
CONFERENCES &
HACKATHONS

- *Organization for Human Brain Mapping (OHBM)*, Online Meeting (June, 2020).
- *Teaching Assistant at Bay Area Brainhack*, San Francisco, CA (2020).
- *Progress in Neuroscience Seminar*, Weill Cornell Medicine, New York, NY (2020).
- *UCSF Radiology China Basin Colloquium*, UCSF, San Francisco, CA (2019).
- *UCSF Bakar Institute Meeting*, UCSF, San Francisco, CA (2019).
- *Teaching Assistant at Bay Area WiMLDS Scikit-Learn Sprint*, San Francisco, CA (2019).
- *Society for Neuroscience*, Annual Meeting, San Diego, CA (2018).
- *Neurohackademy*, University of Washington, Seattle, WA (2018).
- *Mathematical Physics and Harmonic Analysis Seminar*, CUNY Graduate Center, New York, NY (2016).
- *Brainhack Los Angeles*, Los Angeles, CA (2016).

AWARDS

- 2020 ReproNim/INCF Fellow: <https://www.repronim.org/fellowship>
- 2018 NeuroHackademy Travel Grant, a 2-week conference focusing on reproducibility, open source sharing, and software practices in neuroimaging, including a poster presentation and a final presentation of hackathon project.
- 2016 Brainhack Travel Grant, a 1-week hackathon as junior investigator and presented on neural mass modeling of human electroencephalography data.
- 2013 Lionel Malamed Award for student athlete academic achievements, from The City College of New York.
- 2013 Tau Beta Pi, Engineering Honor Society inductee
- 2009 New Era Scholarship, from The City University of New York to pursue a degree in biomedical engineering

INDUSTRY EXPERIENCE	<p>GE Healthcare, NJ, Junior Engineer, September 2014 - May 2015</p> <p>Fuji Medical Systems, CT, Quality Assurance Engineer, July 2013 - June 2014</p>
RELEVANT SKILLS	<p>Languages: English (fluent), Mandarin Chinese (native)</p> <p>Technical: Python, Git workflows, High performance computing, MATLAB, AWS, Docker and Singularity.</p>
REFERENCES	<p>★ Ashish Raj, Professor of Radiology and Bio-Engineering, University of California San Francisco, CA, USA, +1(415) 353-3442, ashish.raj@ucsf.edu, https://profiles.ucsf.edu/ashish.raj</p> <p>★ Srikantan Nagarajan, Professor of Radiology and Bio-Engineering, University of California San Francisco, CA, USA, +1(415) 476-4982, srikantan.nagarajan@ucsf.edu, https://profiles.ucsf.edu/srikantan.nagarajan</p> <p>★ Pablo F. Damasceno, Postdoctoral Fellow & Applied Data Scientist, Center for Intelligence Imaging, University of California San Francisco, CA, USA, +1(734) 926-8070, pablo.damasceno@ucsf.edu, https://pfdamasceno.github.io/</p> <p>★ Pedro D. Maia, Professor of Applied Mathematics, University of Texas Arlington, TX, USA, +1(206) 661-4372, pedro.doria.maia@gmail.com, https://sites.google.com/site/pedrodoriaamaia/</p>