

Christopher Markiewicz

Curriculum Vitae

Stanford University
Department of Psychology
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Education

- 2010 – 2017 **PhD. Cognitive and Neural Systems**, *Boston University*, Boston, MA.
Dissertation: Multivariate pattern analysis of input and output representations of speech
Advisor: Jason W. Bohland
- 2009 **BS. Mathematics**, *University of Tulsa*, Tulsa, OK.
- 2009 **BCS. Computer Science**, *University of Tulsa*, Tulsa, OK.

Additional Research Experience

- 2005 – 2008 **Undergraduate researcher**, *University of Tulsa*, Tulsa, OK.
Operating systems security. Network traffic analysis. Advisor: John Hale

Professional Employment

- 2017 – **Software Developer**, *Stanford University*, Stanford, CA.
Center for Reproducible Neuroscience
- 2009 – 2010 **Bioinformatics programmer**, *University of Tulsa*, Tulsa, OK.
InSilico Research Group: PySNPRank, PyGAIN, Bioinformatics format converters
- 2009 – 2010 **Neuroinformatics intern**, *Laureate Institute for Brain Research*, Tulsa, OK.
XNAT deployment, HIPAA compliance, Asset tracker
- Summer 2008 **Intern**, *True Digital Security*, Tulsa, OK.
High bandwidth traffic shaping, Transparent emergency data destruction
- Summer 2007 **Intern**, *Meketrex Technologies, Inc.*, Tulsa, OK.
Technical copywriting

Teaching Experience

- 2008-2009 **Tutor**, *University College Cork*, Cork, Ireland.
CS 4620/4621 Functional Programming. Professor: Joseph Manning
- 2007-2008 **Teaching assistant**, *University of Tulsa*, Tulsa, OK.
MATH 1083 Contemporary Mathematics. Professor: Janica Edmonds

Awards and Fellowships

- 2011 – 2016 Research Assistantship, CELEST NSF Science of Learning Center
- Nov. 2014 CompNet Travel Award to Society for Neuroscience Conference
- Nov. 2012 CompNet Travel Award to Society for Neuroscience Conference
- 2010 – 2011 Dean's Fellowship for Graduate Study, Boston University
- 2005 – 2009 Presidential Scholarship, University of Tulsa
- 2006 – 2008 Tulsa Undergraduate Research Challenge Program, University of Tulsa

Technical Expertise

Data analysis, functional magnetic resonance imaging, biological modeling, neural networks, neuroinformatics, digital signal processing, speech analysis, pattern recognition, software engineering, computer security, system administration, database management.

Technologies

Scientific	FreeSurfer/FsFast, FSL, AFNI, NiPype, PyMVPA, scikit-learn, PsychoPy, PRAAT
Cluster computing	Load Sharing Facility (LSF), Oracle/Sun Grid Engine (SGE), Andrew File System (AFS)
Web	HTML/CSS, JavaScript, JQuery, Python/Django, Perl/CGI, PHP, WSGI
Version control	git (GitHub, git-annex), subversion, CVS

Programming Languages

Proficient	Python 2/3, MATLAB, C, Perl, Shell
Competent	Haskell, L ^A T _E X, Java, Mathematica
Familiar	R, JavaScript, PHP, Common LISP

Publications

Peer Reviewed Journals

- [1] **Markiewicz CJ** and Bohland JW (November 2016). Mapping the cortical representation of speech sounds in a syllable repetition task. *NeuroImage*, 141:174–190. doi:10.1016/j.neuroimage.2016.07.023.

Conference Proceedings

- [2] Roberts W, **Johnson C**, and Hale J (2010). Transparent Emergency Data Destruction. In *The 5th International Conference on Information-Warfare & Security*, pages 271–278.
- [3] Louthan G, McMillan C, **Johnson C**, and Hale J (2009). Toward Robust and Extensible Automatic Protocol Identification. In *International Conference on Internet Computing*, pages 104–108.

Presentations

Invited Talks

- [4] **Markiewicz CJ**. Using Python for neuroimaging. Hands-on Reproducible and Scalable Brain Imaging Analysis with Nipype, Cambridge, MA, March 2017. (Oral).
- [5] **Markiewicz CJ**. Multivariate pattern analysis of input and output representations of speech. Boston Speech Motor Control Working Group, Boston, MA, December 2016. (Oral).
- [6] **Johnson CJ** and Bohland JW. Localizing categorical speech representations in perception and production. Society for Neuroscience, Washington, DC, November 2014. Program No. 204.09. (Oral).
- [7] **Johnson CJ**. Localizing Neural Representations of Speech Sounds. Second CELEST Workshop on Adaptive Brain-Computer Interactions, Boston, MA, June 2013. (Oral).

[†]Presenter, when not first author

Poster Presentations

- [8] **Markiewicz CJ**, Kroshian GS, You J, and †Bohland JW. Multivariate analysis of input and output representations in speech. Organization for Human Brain Mapping Annual Meeting, Geneva, June 2016. (Poster).
- [9] **Markiewicz CJ** and Bohland JW. Localizing categorical speech representations in perception and production. Neural Processing in Humans, Animals, and Man, Boston, MA, June 2015. (Poster).
- [10] **Johnson CJ** and Bohland JW. Localizing Speech Sound Representations in a Syllable Repetition Task. 6th Annual Inter-Science of Learning Conference, Pittsburgh, PA, February 2014. (Poster).
- [11] **Johnson CJ** and †Bohland JW. Mapping the cortical representation of speech sounds during syllable repetition. Society for the Neurobiology of Language Annual Meeting, Amsterdam, NL, August 2014. (Poster).
- [12] **Johnson CJ**, Mitra PP, and Bohland JW. The Online Brain Atlas Reconciliation Tool (OBART): A web application for MRI atlas exploration and multi-atlas labeling. Society for Neuroscience 2012 Annual Meeting, New Orleans, LA, October 2012. (Poster).
- [13] **Johnson CJ** and Yazdanbakhsh A. A minimal model of motion tuning in middle temporal visual cortex. 16th International Conference on Cognitive and Neural Systems, Boston, MA, May 2012. (Poster).

Software

Published Methods

- [14] **Markiewicz CJ** (April 2016). philips-cdas v0.1. doi:10.5281/zenodo.49853.
- [15] You J, **Markiewicz CJ**, and Bohland JW (July 2015). Formant detection scripts for “Mapping the cortical representation of speech sounds in a syllable repetition task”. doi:10.5281/zenodo.51362.

Contributions to Open Source Scientific Software

- [16] Brett M, Hanke M, Cipollini B, Côté MA, **Markiewicz C**, Gerhard S, Larson E, Lee GR, Halchenko Y, Kastman E, Madison C, Morency FC, Moloney B, Millman J, Rokem A, Leppäkangas J, Gramfort A, van den Bosch JJ, Subramaniam K, Nichols N, Baker EM, Pinsard B, Haselgrove C, Oosterhof NN, St-Jean S, Amirbekian B, Nimmo-Smith I, Ghosh S, Varoquaux G, and Garyfallidis E (August 2016). nibabel: 2.1.0. doi:10.5281/zenodo.60808.
- [17] Ghosh S, Gorgolewski CF, Esteban O, Ziegler E, Ellis D, Madison C, Waskom M, Clark D, Clark D, Michael, Loney F, Manhães-Savio A, Notter M, Johnson H, Keshavan A, Halchenko Y, Hamalainen C, Dewey B, Cipollini B, Huntenburg J, Erickson D, Hanke M, Wong J, Moloney B, Giavasis S, Nichols N, Wassermann D, **Markiewicz C**, Goncalves M, and de Los Angeles C (July 2016). nipy: 0.12.0. doi:10.5281/zenodo.57580.
- [18] Halchenko Y, Hanke M, Oosterhof NN, Olivetti E, Sederberg PB, Guntupalli S, Zito T, Haenel V, Buchholz S, Dinga R, Eshaghi A, Armstrong D, Riggall A, Gohlke C, **Markiewicz C**, Notter M, Ekman M, Chen C, Wheeler K, Ghosh S, Daniel-Weiner R, di Oleggio Castello MV, Raghavan G, Connolly A, and Ma F (November 2015). PyMVPA: 2.4.1. doi:10.5281/zenodo.33988.
- [19] Waskom M, Gramfort A, Larson E, Brodbeck C, Burns S, Luessi M, **Markiewicz C**, Engemann DA, LaPlante R, Halchenko Y, Ghosh S, Angulo D, Piantoni G, and Brett M (August 2015). PySurfer: Version 0.6. doi:10.5281/zenodo.23444.

Service/Leadership

- 2015 **Co-organizer**, *7th Annual Inter-Science of Learning Conference*, La Jolla, CA.
- 2014 – 2016 **Student member**, *CompNet Outreach and Meeting Initiatives Committee*, Boston University.
- 2013 – 2014 **President**, *Computational Neuroscience Student Organization*, Boston University.
- 2013 **Co-organizer**, *5th Annual Inter-Science of Learning Conference*, Philadelphia, PA.