Yunyan Duan

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EDUCATION

Northwestern University, Evanston, IL *2015-*
Ph.D. student, Department of Linguistics

Peking University, Beijing, P. R. China *2009-2013*
B.Sc. in Statistics, School of Mathematical Sciences
B.Sc. in Psychology, Department of Psychology

RESEARCH INTERESTS

I am interested in the psychological and computational aspects of human language processing. I wonder how information from various sources integrates to influence language comprehension. I use both psychological experimentation and computational modeling approaches.

PUBLICATIONS

Duan, Y., & Bicknell, K. (2017). Refixations gather new visual information rationally. In *Proceedings of the 39th Annual Conference of the Cognitive Science Society*: 301-306.

Yu, H., **Duan, Y.**, & Zhou, X. (2017). Guilt in the eyes: Eye movement and physiological evidence for guilt-induced social avoidance. *Journal of Experimental Social Psychology*, 71, 128-137. doi: 10.1016/j.jesp.2017.03.007.

***Duan, Y.**, & *Wu, O. (2016). Learning with auxiliary less-noisy labels. *IEEE Transactions on Neural Networks and Learning Systems,* 1-6. doi:10.1109/TNNLS.2016.2546956. (* indicates equal contributions.)

Luo, Y., **Duan, Y.**, & Zhou, X. (2015). Processing rhythmic pattern during Chinese sentence reading: An eye movement study. *Frontiers in Psychology 6*: 1881. doi:10.3389/fpsyg.2015.01881.

Wang, L., **Duan, Y.**, Theeuwes, J., & Zhou, X. (2014). Reward breaks through the inhibitory region around attentional focus. *Journal of Vision 14*(12): 2, 1–7. doi:10.1167/14.12.2.

CONFERENCE PRESENTATIONS

Duan, Y., & Bicknell, K. (2016). Word identification in reading is constructive: Refixations seek new visual information. Poster presentation at the 22nd annual conference on Architecture and Mechanisms for Language Processing (AMLaP), Bilbao, Spain, 1–3 September 2016.

Duan, Y., Yu, H., & Zhou, X. (2014). Avoiding eyes reveals guilty heart: An eye

movement study on interpersonal guilt. Poster presentation at the 6th Chinese International Conference on Eye Movements (CICEM), Beijing, China, 5–9 May 2014,

Hu, J., Liu, J., **Duan, Y.**, Zhao, C., Gong, X., Xiang, Y., Jiang, C., & Zhou, X. (2014). Resting-state functional connectivity indexes emotion recognition bias. Poster presentation at the 20th Annual Meeting of the Organization for Human Brain Mapping (OHBM), Hamburg, Germany, 8–12 June 2014.

*****Feng, W., ***Duan, Y.**, Luo, Y., & Zhou, X. (2013). When language hurts you: Aggression provoked by rhetorical questions. Poster presentation at the 1st Brain Research Symposium by PKU-IDG/McGovern Institute, Beijing, China, 20–21 August 2013.

ACADEMIC EXPERIENCE

Kavli Summer Institute in Cognitive Neuroscience *Jul 2017*

Lectures and lab sessions on computational perspectives in cognitive neuroscience research on language prediction and reinforcement learning.

Research Assistant *2015-*

Language and Computation Lab, Northwestern University

Advisor: Dr. Klinton Bicknell

Computational modeling for word recognition and visual information processing in reading

Research Assistant *2011-2015*

Center for Brain and Cognitive Sciences, Peking University

Advisor: Dr. Xiaolin Zhou

Experimental studies on sentence processing and social emotion; Advanced statistical analyses of behavioral and neural data

Research Intern *Apr–Sep 2014*

National Laboratory of Pattern Recognition (NLPR), Institute of Automation, Chinese Academy of Sciences

Advisor: Dr. Ou Wu

General machine learning research in classification tasks with noisy labels

Winter School on Computational Neuroscience *Dec 2012*

Shanghai Jiao Tong University, Shanghai, China

A week long introduction to models of individual neurons, neural circuits and networks in computational neuroscience field

HONORS AND AWARDS

Successful Participants in *Mathematical Contest in Modeling 2013* *Apr 2013*

First-class prize of Beijing contest district in *China Undergraduate Mathematical Contest in Modeling (CUMCM 2011)* *Nov 2011*

Second-class Freshman Scholarship, Peking University *2009*

PROFESSIONAL DEVELOPMENT

Technical and experimental skills *2011-*

***Eye-tracking*:** Design and run eye-tracking experiments in Experiment Builder and analyze data in Data Viewer. Carry out area-of-interest analysis and scanpath analysis.

***fMRI*:** Analyze functional MRI data in SPM. Carry out functional connectivity analysis on resting-state fMRI data in DPARSF and REST.

***ERP*:** Experience with ERP data collection and data analysis.

Coursework *2009-*

Graduate: Topics in linguistics: Bayesian inference for language scientists, Introduction to Computational Linguistics, Fundamentals of Neuroscience, Fundamentals of Syntax/Phonology/Meaning.

Undergraduate: Cognitive Neuroscience, Functional Anatomy of Central Nervous System, Computational Vision, Sensation and Perception, Mathematical Modeling, Artificial Intelligence.

Computer skills *2009-*

R: lme4, ggplot2; dplyr; tidyr;

Python: NLTK, PyLucene, Scrapy;

MATLAB: Psychtoolbox, Eyelink Toolbox, SPM;

Other: LaTex; Stanford CoreNLP (natural language processing); Experiment Builder (eye-tracking); Praat (phonetics)

Statistical analysis and mathematical modeling *2009-*

Linear-mixed model, logistic regression, cluster analysis, principal component analysis, Bayesian inference, support vector machine, etc.

Online courses *2014-*

Accomplished: Deep Learning Specialization (1-3 accomplished, 4-5 ongoing; Coursera); Mining Massive Datasets (Stanford Online Lagunita); Statistical Learning (Stanford Online); Machine Learning (Coursera); Natural Language Processing (Coursera); Logic: Language and Information-1 (Coursera)