kyleDunovan

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Education & Training

Post-Doctoral Fellow	2017-
Carnegie Mellon University	
Verstynen Cognitive Axon Lab	
PhD in Cognitive Neuroscience	2011-2016
University of Pittsburgh	
B.S. in Neuroscience	2009-2011
University of Nebraska at Omaha	
General Studies	2006-2009
Western Nebraska Community College	

Dissertation

A biologically motivated synthesis of accumulator and reinforcement learning models for describing adaptive decision-making [PDF]

Pitt Advisor: Dr. Julie Fiez
CMU Advisor: Dr. Timothy Verstynen

Publications

Dunovan, K. and Wheeler, M.E. (In Review). *The before and after pictures of expectation: pre and post-sensory bias in inferior temporal cortex*.

Dunovan, K. & Verstynen, T. *Dual learning mechanisms drive adaptive inhibitory control*. *bioRxiv* (2017). doi:10.1101/153676 [PDF]

Dunovan, K. and Verstynen, T. (2016). *Believer-Skeptic meets Actor-Critic: Rethinking the role of basal ganglia pathways during decision-making and reinforcement learning*. Frontiers in Neuroscience. doi: 10.3389 [PDF]

Dunovan, K., Lynch, B., Molesworth, T., & Verstynen, T. (2015). *Competing basal ganglia pathways determine the difference between stopping and deciding not to go*. eLife*, 4, 1-24.* doi: 10.7554 [PDF]

Dunovan, K., Tremel, J.J., & Wheeler, M.E. (2014). *Prior probability and feature predictability interactively bias perceptual decisions*. Neuropsychologia, 61, 210-221. [PDF]

Posters

Dunovan, K. and Verstynen, T., *A biologically- constrained hybridization of reinforcement learning and accumulator models for adaptive decision-making* at Society for Neuroscience 2016. [PDF]

Dunovan, K.., Molesworth, T., Verstynen, T., *The difference between stopping and deciding not to go: behavioral, imaging and modeling evidence* at Society for Neuroscience 2014. [PDF]

Wheeler, M.E., Dunovan, K. E., and Tremel, J. T., *Prior expectations bias hemodynamic activity before and during perceptual decisions: evidence from diffusion modeling and fMRI* at Society for Neuroscience 2014.

Dunovan, K., Tremel, J. T. and Wheeler, M. E. *Transient prior probabilities affect choice bias during temporally extended perceptual decision-making at Society for Neuroscience* 2012.

Mentoring

Matthew Clapp, Undergraduate   Summer 17
Summer Program in Neural Computation Trainee
University of South Carolina

Jacqueline Hon, Undergraduate   2017-
CMU Neuroscience

Necati Alp Muyesser, Undergraduate   2016-
Program in Neural Computation Fellow
CMU Math

Jeremy Huang, Undergraduate   Summer 16
CMU Computer Science

Brian Krainer, Undergraduate   2014-2016
Program in Neural Computation Fellow
CMU Cog. Science, Computer Science

Ashley Senders, Undergraduate   2012-2013
Pitt Psychology, Neuroscience

Honors & Awards

CNBC McClelland Award	2016
Graduate Student Representative	2011-2012
Multimodal Neuroimaging Training Program	2011
Psi Chi President	2010-2011
Psi Chi Honors Society	2009-2011
Dean's List status	2009–2011
Chancellor's List status	2010

Teaching

TA, MNTP DSI module	Summer 15
TA, MNTP DSI module	Summer 14
Instructor, Cog. Psych. Lab	Spring 14
TA, Biopsychology	Fall 13
TA, Sensation and Perception	Fall 13
TA, MNTP fMRI module	Summer 13
TA, MNTP fMRI module	Summer 12
TA, Introduction to Psychology	Spring 12
TA, Research Methods	Fall 11

Methods & Languages

Computational Models of RL & Decision-Making
Attractor and Neural Network Models of Basal Ganglia
Functional Magnetic Resonance Imaging (fMRI)
Behavioral Data Analysis & Psychophysics

Languages:
Python (fluent), MATLAB (mid-level), Shell (mid-level)