Richard A. Hullinger

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Education

Ph.D. in Psychological and Brain Sciences and Cognitive Science, 2011
Indiana University, Bloomington, Indiana
Advisor: John K. Kruschke
Thesis Title: *An Evolutionary Analysis of Selective Attention*

B.S. in Physics, 1996
B.S. in Computer Science, 1996
Magna Cum Laude
Rensselaer Polytechnic Institute, Troy, NY

Teaching Experience

Director of Undergraduate Instruction:
C104 Opinions, Beliefs, and Truth, Fall 2020, 2021, 2022
P357 Thinking Like Machines, Fall 2020 -- Present
K300 Statistical Techniques, Fall 2020 -- Present

Director of Pedagogy, Indiana University:
P211 Methods of Experimental Psychology, Spring 2015 – Spring 2020
P335 Cognitive Psychology, Spring 2015, Summer 2018
P101 Introductory Psychology, Fall 2015
K300 Statistical Techniques, Fall 2015, Fall 2016 – Spring 2020
P660 Teaching of Psychology, Spring 2015, 2016, 2017, 2018

Lecturer, Indiana University:
K300 Statistical Techniques, Fall 2013 – Fall 2014
P335 Cognitive Psychology, Fall 2013 – Spring 2014
C105 Brains & Minds, Robots & Computers, Fall 2013 & 2014
P199 Planning Your Psychology Career, Spring 2014
P101 Introductory Psychology, Fall 2014

Visiting Assistant Professor, Indiana University:
K300 Statistical Techniques, Spring 2012 – Spring 2013
Q301 Brain and Cognition, Spring 2013
P335 Cognitive Psychology, Fall 2011 & 2012
C105 Brains & Minds, Robots & Computers, Fall 2011 & 2012
P199 Planning Your Psychology Career, Spring 2012 & 2013
P102 Introductory Psychology, Fall 2011

Honors and Fellowships

Senior Fellow of the College of Arts and Sciences Career Fellows Program – Indiana University, 2023
Founding Fellow of the College of Arts and Sciences Career Fellows Program – Indiana University, 2022
Founding Fellow of the Digital Gardener Faculty Fellows Program – Indiana University, 2021
Course Material Transformation Fellow – Indiana University, 2021
Scholarship of Teaching and Learning Grant – Indiana University, 2017
Disability Services for Students Access Award – Indiana University, 2016
College of Arts and Sciences Trustees Teaching Award – Indiana University, 2014

Research Interests

As an instructor, I am deeply interested in studying pedagogical issues in post-secondary education. Specifically, I am drawn towards the interface between technology and the classroom – electronic textbooks, student response systems, internet access during class time, interactive applets, etc. – and the effects that technology can have on learning.

I am also interested in a range of cognitive science topics with a primary focus on evolutionary simulations of attention and learning. I use simulated evolution as a means to investigate the types of environmental information structures that lead to the emergence of attention as an adaptive mechanism. I employ genetic algorithms to evolve simple connectionist networks in a range of environments. These environments may vary in terms of the underlying structure of the cues and responses, the temporal structure, or the amount of noise that is present in the environment. I then analyze the evolved agents to determine if they show signs of attentional behavior. The primary goal of this work is to explain attentional behaviors as adaptive evolved responses that can only be fully understood in the context of the environments that gave rise to them.

Publications

Hullinger, R. A., Kruschke, J. K. and Todd, P. M. (2015), An Evolutionary Analysis of Learned Attention. Cognitive Science, 39: 1172–1215. doi: 10.1111/cogs.12196

Kruschke, J.K., & Hullinger, R.H. (2010). Evolution of attention in learning. In: N. Schmajuk (Ed.), *Computational Models of Classical Conditioning*, pp. 10 – 52. Cambridge University Press.

Presentations

Hullinger, R.H., Kruschke, J.K., & Todd, P.M. (2010) *Evolution of Attention in Learning*. Talk presented at I.U. Cognitive Lunch Series, Bloomington, IN.

Kruschke, J. K. & Hullinger, R. H. (2009). *Evolution of Attention in Learning*. Invited presentation at the Workshop on Computational Models of Conditioning, Duke University, May 16, 2009.

Hullinger, R.H., & Kruschke, J.K. (2006). *Attention To Individuating Cues Obviates Dual Process Theories.* Talk presented at I.U. Cognitive Lunch Series, Bloomington, IN.

Service

College of Arts and Sciences
COAS Promotion Committee, Fall 2020

COAS Undergraduate Computing Task Force, Spring 2019 – Fall 2019
College Undergraduate Education Committee, Fall 2017 – Spring 2020
Academic Fairness Committee, Fall 2016 – Present
Faculty Task Force for the College's Office of Student and Career Success, Spring 2016
21st Century Task Force, Minors and Certificates sub-committee, Spring 2015

Psychological and Brain Sciences

Chair of Cognitive Lecturer Search Committee, Spring 2023
Merit Review Committee, Spring 2022 – Present
VAP/Lecturer Hiring Committee, Fall 2019 – Fall 2022
Undergraduate Program Committee, Spring 2015 – Present
PoStCom, Spring 2020
Graduate Program Committee, Fall 2018 – Spring 2019
Undergraduate Professional Development Committee, Fall 2016 – Spring 2017
Teaching Evaluation Committee, Fall 2016 – Spring 2017

Professional Experience

Software Developer/Team Lead, Interactive Intelligence, Indianapolis, IN. 1999-2004. Responsible for the support, maintenance and new development of several client-side applications.

Software Developer, Multiplicity Inc., Indianapolis, IN. 1998-1999.
Designed and developed the user interface for windows software to present historical and real-time data about server performance.

Software Developer, Westinghouse Corp., Pittsburgh, PA. 1996 – 1998.
Primary developer of the Prospector news analysis system for the automated capture and analysis of local news broadcasts.

Patents

"System for Analyzing Television Programs," U.S. Patent Number 6,295,092, issued Sept. 25, 2001. Inventors: R. Hullinger et al