Katharine Porter

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Summary

PhD Candidate (ABD) at Harvard University in Experimental Psychology / Cognitive Neuroscience, graduating spring 2016. Motivated independent learner and problem solver who excels in team environments. Passionate about data science and gleaning impactful insights from complex data to solve real-world challenges.

6+ years experience in experimental design, data analysis, project management, written and oral presentation of research findings. Extensive programming experience in relation to research.

Experience

Graduate Researcher in Cognitive Neuroscience 2011 – 2016 (May expected)
Harvard University Cambridge, MA

Designed, executed, analyzed, and communicated results of experimental research projects using both fMRI and behavioral techniques. Investigated mechanisms underlying visual object individuation and identification.

- Completed 20+ behavioral experiments with both in-lab and online subjects, including reaction-time data
- Completed 3 fMRI experiments collecting and analyzing large, high-dimensional neuroimaging datasets
- Programmed customized Matlab code for:
    - Creation and presentation of stimuli in Matlab, including interaction with MRI scanner, with code shared within and across labs in the department
    - Data management and analysis with AFNI (C programs for MRI analysis) with tcsh scripting
    - Data management and analysis with SPM (brain analysis software)
- Wrote interactive front end in HTML/CSS with JavaScript for data collection in Amazon MTurk experiments
- Resulted in peer-reviewed publication (+1 in prep.), 5+ oral presentations, 3 conference posters

Independent Researcher 2010-2011
University of Bologna Bologna, Italy

Awarded James B. Reynolds Scholarship to study the neural correlates of voice recognition in the congenitally blind.

- Coded and executed event-related fMRI experiment using Matlab, created auditory stimuli
- Resulted in journal article (under review)

Undergraduate Researcher 2007 – 2010
Dartmouth College Hanover, NH

Investigated visual perception (translational and rotational motion) and neural correlates of monocular depth cues.

- Designed, executed, and analyzed several psychophysics experiments
- Completed senior honors thesis fMRI project on perceived depth from monocular cues
- Resulted in peer-reviewed publication, book chapter, conference poster, and 2 oral presentations

Skills

- Experience with small and large datasets (3+ billion data points in each fMRI neuroimaging experiment)
- Machine learning: linear and logistic regression, SVM classification, *k*-means, principal components
- Programming: Matlab; *Familiar with* Python, R, HTML/CSS, tcsh
- Psychological science, modeling human cognition and behavior, experimental design

Interests

- Rock climbing, ultimate frisbee, cycling, hiking, traveling, Italian, drawing

Education

Independent Learning: Relevant Coursework 2015-2016

- Online: Machine Learning (Coursera / Andrew Ng), Intro to Machine Learning (Udacity / Sebastian Thrun)
- Skill-building workshops: Introduction to Python's Scikit-Learn Library, Data Visualization with Python, Basic R Programming for Data Analysis (Compufest, IACS / Harvard University)

PhD, Experimental Psychology 2011 – 2016

- GPA: 3.9 Harvard University, Cambridge, MA
- Coursework included: Intermediate Statistical Analysis, Multivariate Analysis, Cognitive & Neural Models

AB, Psychology with High Honors 2006 – 2010

- GPA: 3.9 within major / 3.8 overall, High Honors Thesis Dartmouth College, Hanover, NH

Awards

2014 Bok Center for Teaching Certificate of Distinction – Teaching Fellow, Cognitive Neuroscience
2013 NSF Graduate Research Fellowship Program, Honorable Mention
2010 James B. Reynolds Scholarship for Foreign Study
2010 Nickerson Prize for Outstanding Undergraduate Work In Psychology
2010 James O. Freedman Presidential Scholar
2008 David C. Hodgson Endowment for Undergraduate Research Award

Peer-Reviewed Publications

Porter, K. B., Mazza, V., Garofalo, A., & Caramazza, A. (2016). Visual object individuation occurs over object wholes, parts, and even holes. *Attention, Perception, & Psychophysics*.

Porter, K. B., Caplovitz, G. P., Kohler, P. J., Ackerman, C. M., & Peter, U. T. (2011). Rotational and translational motion interact independently with form. *Vision Research*.

Caplovitz, G. P., Hsieh, P-J., Kohler, P. J., **Porter, K. B.** (in press). Spinning ellipse speed illusion. *Oxford Compendium of Visual Illusions.*

Fairhall, S., **Porter, K. B.,** Bellucci, C., Mazzetti, M., Cipolli, C., & Gobbini, M. I. (in review). Plastic reorganization of neural systems for person perception in the congenitally blind: an fMRI study on the perception of voices.

Porter, K. B., & Caramazza, A. (in preparation). Object individuation in the inferior parietal lobule: Connectivity does not affect modulation by number.

Conference Presentations

Porter, K. B., & Caramazza, A., (2016, May). *Object individuation in the Inferior Parietal Lobule: Connectivity does not affect modulation by number.* Poster submitted to Concepts Actions and Objects, Trento, Italy.

Porter, K. B., Anzellotti, S., & Caramazza, A., (2014, May). *Neural representation of viewpoint-independent identity of objects.* Poster presented at Concepts Actions and Objects, Trento, Italy.

Porter, K. B., Garofalo, A., Mazza, V., & Caramazza, A. (2013, May). *Subitizing occurs across features of a single object*. Poster presented at Annual Meeting of the Vision Sciences Society, Naples, FL. Abstract published in *Journal of Vision*.

Porter, K. B., Kohler, P. J., Cavanagh, C. E., & Peter, U. T. (2012, May). *Neural correlates of ground plane perception revealed using multivariate pattern analysis.* Poster presented at Annual Meeting of the Vision Sciences Society, Naples, FL. Abstract published in *Journal of Vision*.