Katharine Porter

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Skills

- Languages: Python, SQL, Matlab *familiar with* R, HTML/CSS, shell scripting
- Tools: Scikit-Learn, Pandas, Matplotlib, Seaborn, Numpy, git, Flask, Bootstrap, MySQL, AWS
- Techniques: linear & logistic regression, support vector machine & random forest classification, recursive feature elimination, principal components analysis, k-means clustering, experimental design

Experience

Fellow, Insight Data Science   Boston, MA   June 2016 – present

Developed predictive model for Constant Therapy to prevent user churn; demo at www.churnnomore.me

- Trained and validated random forest model, engineered and selected features using Pandas and MySQL (database of >10,000 users), to predict user drop-off
- Created interactive interface hosted on Amazon AWS using Flask and Bootstrap for visualization of insights
- Produced actionable recommendations for increased user retention, and method to identify at-risk users

Graduate Researcher, Harvard University   Cambridge, MA   2011 – 2016

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
- Wrote interactive front end in HTML/CSS with JavaScript for data collection in Amazon MTurk experiments
- Completed 3 fMRI experiments collecting and analyzing large, high-dimensional neuroimaging datasets (3+ billion data points per experiment)
- Wrote customized code for the creation (4D matrices) and presentation of stimuli in Matlab, including interaction with MRI scanner, with code shared within and across labs in the department
- Data management and analyses including: SVM classification, regression, recursive feature elimination
- Resulted in peer-reviewed publication (+1 in prep.), 5+ oral presentations, 3 conference posters

Independent Researcher, University of Bologna   Bologna, Italy   2010 – 2011

Awarded $20,000 scholarship to spearhead a project exploring the neural correlates of voice recognition in the congenitally blind

- Coded and executed event-related fMRI experiment using Matlab; managed subject recruitment
- Resulted in journal article (under review)

Education

PhD, Cognitive Neuroscience, **Harvard University**   Cambridge, MA   2016
BA, Psychology & Art History/Studio Art, **Dartmouth College**   Hanover, NH   2010

Awards and Honors

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 Research – $20,000

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). Flexible object individuation occurs over connected and unconnected objects in inferior intraparietal sulcus.

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*.

Interests/Other

- Rock climbing, cycling, ultimate frisbee, hiking, traveling, Italian, learning new skills
- Academic website : scholar.harvard.edu/kporter