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Sebastián Bobadilla Suárez

PERSONAL STATEMENT

I am a cognitive neuroscientist who uses scientific theory together with machine learning techniques to find meaning in unstructured datasets. My work is in collaboration with statisticians and machine learning researchers and focuses on the statistical modeling of human decision-making and categorization data. Through these collaborations, I gained valuable experience in interdisciplinary work. Further to this, I also have professional work and volunteer experience with government institutions and rural/indigenous communities.

EDUCATION

2018 – present University College London (UCL)
Research Associate in Computational Modelling of Brain Imaging Data with Professor Brad Love

2013 – 2018 University College London (UCL)
PhD in Cognitive Neuroscience.
Thesis: *The Interaction between Task Goals and the Representation of Choice Options in Decision-making.*
Includes studies on decision heuristics and computational methods in neuroimaging.
CONACYT scholarship.

2016 – 2017 The Alan Turing Institute
Internship and Enrichment Year Student.
Working on neural similarity measures and machine classifiers in a statistics and computer science dominated environment.

2012 – 2013 University College London (UCL)
MSc in Social Cognition: Research and Applications.
Distinction. CONACYT scholarship.
Thesis: *Uncertainty, Confidence, and Suboptimality in Choice.*
An eye tracking study of confidence in value-based choices.

2007 – 2011 National School of Anthropology and History
Escuela Nacional de Antropología e Historia (ENAH), Mexico City.
Bachelor's Degree in Social Anthropology, 9.7 out of 10 GPA.
Thesis: *Moral Hierarchies of Madness in the Popolucas of Soteapan, Veracruz*.
Ethnography of three case studies of psychopathology in

an indigenous community.

PUBLICATIONS

Bobadilla-Suarez, S., Nichols, T. & Love, B. C. (in prep). Optimal trial coefficient estimation for functional magnetic resonance imaging.

Bobadilla-Suarez, S. Ahlheim, C., Mehrotra, A., Panos, A. & Love, B. C. (in prep). Neural measures of similarity.

Bobadilla-Suarez, S., & Love, B. C. (2017, May 29). Fast or Frugal, but Not Both: Decision Heuristics Under Time Pressure. *Journal of Experimental Psychology: Learning, Memory, and Cognition.* Advance online publication. http://dx.doi.org/10.1037/xlm0000419.

Bobadilla-Suarez, S., Sunstein, C. R. & Sharot, T. (2017). The intrinsic value of control: The propensity to under-delegate in the face of potential gains and losses. *Journal of Risk and Uncertainty*, 54(3), 187-202.

De Martino, B., **Bobadilla-Suarez, S.**, Nouguchi, T., Sharot, T., & Love, B. C. (2017). Social Information Is Integrated into Value and Confidence Judgments According to Its Reliability. *Journal of Neuroscience*, 37(25), 6066-6074.

Sunstein, C.R., **Bobadilla-Suarez, S.**, Lazzaro, S., & Sharot, T. (2017). How people update beliefs about climate change: Good news and bad news. *Cornell Law Review*, 102(6).

Bobadilla-Suarez, S. & Lopez-Avila, A. (2013). [Perceived and imagined body image distortion: a possible factor for obesity and overweight in Mexicans]. *Revista Médica del Instituto Mexicano del Seguro Social*, 52(4), 408-414.

SKILLS

- Programming and software proficiency: MATLAB, R and Python for statistical modelling. HTML and JavaScript for web design (I maintained affectivebrain.com for 1 year). Bash/UNIX skills for automatization of various computer tasks. Familiarity with MySQL, PHP, and Linux servers.
- Model-based analysis, multivariate pattern analysis (MVPA), and representational similarity analysis (RSA) for functional magnetic resonance imaging (fMRI); brain images of BOLD signal during decision-making/categorization tasks. Analyses with SPM and FSL.
- Experienced with implementation of frequentist and Bayesian statistics and machine learning algorithms. Specifically, I am comfortable with SVM, KNN, GNB, and neural networks for classification problems and with mixed effects models for regression problems.
- Knowledge of learning and decision-making literatures.
- Experience with high performance computing and cloud computing.

- Familiar with game theoretical modeling, deep learning, and reinforcement learning.
- Languages: English and Spanish fluency. Basic familiarity with Italian, French, and Nahuatl.
- Excellent organizational skills as demonstrated with organizing and moderating The Alan Turing Institute Topical Discussions for PhD students (January 2017 – September 2017) and the Affective Brain Lab Seminar Series at UCL (March 2014 to November 2015)
- Very good familiarity with business culture through participation in the Entrepreneurship for Emerging Markets course at London Business School (Spring term 2015), the UCL Enterprise Bootcamp (8-10 June 2015) and the four-day Engineering YES workshop for start-ups (May 2014)
- Comfortable with using and analyzing eye tracking data.

OTHER EXPERIENCE

- Various masterclasses on Machine Learning and Statistics at The Alan Turing Institute (October 2016 – September 2017)
- Attended the Microsoft Research Summer School in Artificial Intelligence (July 2017)
- Co-supervision of one undergraduate and one MSc dissertation.
- Moderator for The Alan Turing Institute Fellow Short Talk (7 February 2017)
- Open Data Science Conference UK (8-9 October 2016).
- Introduction to Machine Learning (23-27 May 2016)
- MR Physics for SPM Users (7 October 2015).
- Introduction to Statistics with R (27 February, 2-3 March 2015)
- Sample size estimation and power calculations (16 February 2015)
- Data Analysis and Image Processing with Python (4-5 November 2014)
- SPM for fMRI (for experienced users) (15-16 May 2014).
- Diverse online courses and textbooks on programming, neuroscience, and machine learning (2014 - present).
- Introduction to Bayesian Analysis (24 April 2013)

WORK AND VOLUNTEER EXPERIENCE

Internship and Enrichment Year Student at The Alan Turing Institute (UK National Institute for Data Science) working on the project "Neural similarity measures and machine classifiers" (June 2016 – September 2017).

Social Service Provider at the National Institute of Psychiatry Ramón de la Fuente (Mexico) on the project “Autoperceptive Distortion of Body Image in Men” (December 2010 – June 2011).

Scholarship Grantee with National Institute of Public Health (Mexico). Fieldwork on transnational health practices in the Low Mixteca, Oaxaca (September 2010 – March 2011).

Mental Health Promoter and Assistant at the Psychiatric Hospital Fray Bernardino Álvarez (Mexico). Group psychoanalysis and psychodrama seminars with vulnerable groups in Mexico City (January 2009 – December 2009)