

# ERIC SCHULZ

Cognitive Scientist

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## ACADEMIC BACKGROUND

Data Science Postdoctoral Fellow

Harvard University

2017 - ongoing

Cambridge, USA

PhD in Experimental Psychology

University College London

2014 - 2017

London, UK

MRes in Computer Science

University College London

2013 - 2014

London, UK

MSc in Applied Statistics

University of Oxford

2011 - 2012

Oxford, UK

MSc in Cognitive and Decision Sciences

University College London

2010 - 2011

London, UK

## WORK EXPERIENCE

Volunteer

Uganda Virus Research Institute

2013

Machine Learning Analyst

Zalando

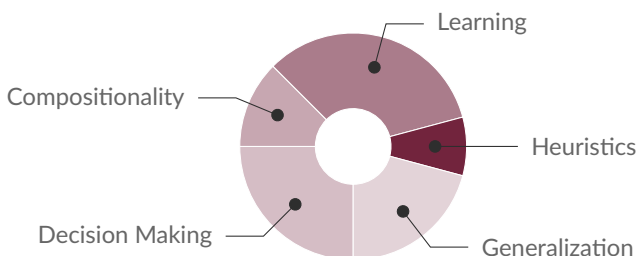
2012-2013

Research Assistant

Max-Planck-Institute, Berlin

2008-2010

## SUMMARY



## AWARDS



Postdoctoral Fellowship

Harvard Data Science Initiative 2017



UCL SLMS Award

Award to attend CogSci 2016



EPS Grindley Award

Award to attend ICT 2016



2015 Upgrade Prize

Best PhD-Upgrade in Psychology



Bogue Fellowship

Fellowship to visit Harvard University



EPSRC Studentship

Full scholarship for MRes and PhD



Academic Scholarship Foundation

Membership



Haniel Scholarship

Full scholarship for MSc in Oxford



DAAD Scholarship

Full scholarship for MSc at UCL

## PROGRAMMING

R

Python

Matlab

JavaScript

C++

Julia

Haskell

LaTeX

## RESEARCH STAYS

Computational Cognitive

Neuroscience Lab

Harvard University (Host: Sam Gershman)

2016

Learning & Adaptive Systems Group

ETH Zurich (Host: Andreas Krause)

2015

Adaptive Behavior and Cognition

Max-Planck-Institute (Host: Björn Meder)

re-occurring

## PUBLICATIONS

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### Conference Proceedings

- Schulz, Eric, Edgar Klenske, Neil R Bramley, and Maarten Speekenbrink. "Strategic exploration in human adaptive control." *Thirty-Ninth Annual Conference of the Cognitive Science Society*. submitted. Print.
- Wu, Charley M, Eric Schulz, Maarten Speekenbrink, Jonathan D Nelson, and Bjorn Meder. "Mapping the unknown: The spatially correlated multi-armed bandit." *Thirty-Ninth Annual Conference of the Cognitive Science Society*. submitted. Print.
- Dasgupta, Ishita, Eric Schulz, Noah D Goodman, and Samuel J Gershman. "Amortized hypothesis generation." *Thirty-Ninth Annual Conference of the Cognitive Science Society*. submitted. Print.
- Villagra, Pablo Leon, Eric Schulz, M Speekenbrink, Samuel J Gershman, and Christopher G Lucas. "One-shot compositional function learning." *Thirty-Ninth Annual Conference of the Cognitive Science Society*. submitted. Print.
- Schulz, Eric, Maarten Speekenbrink, Jose Miguel Hernandez-Lobato, Zoubin Ghahramani, and Samuel J Gershman. "Quantifying mismatch in Bayesian optimization." *NIPS Bayesian Optimization workshop*. 2016. Print.
- Schulz, Eric, Joshua B Tenenbaum, David Duvenaud, Maarten Speekenbrink, and Samuel J Gershman. "Probing the compositionality of intuitive functions". *Advances in Neural Information Processing Systems*. 2016. Print.
- Schulz, Eric, Quentin JM Huys, Dominik R Bach, Maarten Speekenbrink, and Andreas Krause. "Better safe than sorry: Risky function exploitation through safe optimization". *Proceedings of the Thirty-Eighth Annual Conference of the Cognitive Science Society*. 2016. Print.
- Schulz, Eric, Maarten Speekenbrink, and Bjorn Meder. "Simple trees in complex forests: Growing Take The Best by Approximate Bayesian Computation". *Proceedings of the Thirty-Eighth Annual Conference of the Cognitive Science Society*. 2016. Print.
- Schulz, Eric, Emmanouil Konstantinidis, and Maarten Speekenbrink. "Exploration-Exploitation in a Contextual Multi-Armed Bandit Task". *International Conference on Cognitive Modeling*. 2015. 118–123. Print.
- Parpart, Paula, Eric Schulz, Maarten Speekenbrink, and Bradley C. Love. "Active learning as a means to distinguish among prominent decision strategies". *Proceedings of the Thirty-Seventh Annual Conference of the Cognitive Science Society*. 2015. Print.
- Schulz, Eric, Joshua B Tenenbaum, David N Reshef, Maarten Speekenbrink, and Samuel J Gershman. "Assessing the perceived predictability of functions". *Proceedings of the Thirty-Seventh Annual Conference of the Cognitive Science Society*. 2015. Print.
- Schulz, Eric, Emmanouil Konstantinidis, and Maarten & Speekenbrink. "Learning and decisions in contextual multi-armed bandit tasks". *Proceedings of the Thirty-Seventh Annual Conference of the Cognitive Science Society*. 2015. Print.
- Schulz, Eric, Maarten Speekenbrink, and David R Shanks. "Predict choice – a comparison of 21 mathematical models". *Proceedings of the Thirty-Sixth Annual Conference of the Cognitive Science Society*. Cognitive Science Society., 2014. Print.

## PRESENTATIONS

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- Strategic Exploration  
CogSci 2017
- Compositional Inductive Biases  
University of Gottingen 2017
- Compositional Inductive Biases  
University of Osnabruck 2017
- Mismatch in Bayesian Optimization  
NIPS 2016
- Compositional Inductive Biases  
NIPS 2016
- Compositional Inductive Biases  
LJDM 2016
- Simple Trees in Complex Forests  
CogSci 2016
- Better Safe than Sorry  
CogSci 2016
- Compositionality of Intuitive Functions  
ICT 2016
- Contextual Multi-Armed Bandits  
ICT 2016
- Making GPs more Human-like  
Gershman-Lab 2016
- Simple Trees in Complex Forests  
Max-Planck-Institute 2016
- A Theory of Function Learning  
Upgrade Talk 2015
- Contextual Multi-Armed Bandits  
CogSci 2015
- Contextual Multi-Armed Bandits  
Stirling 2015
- Active Take-The-Best  
University of Zurich 2015
- GPs in Cognitive Science  
ETH Zurich 2015
- Active Take-The-Best  
University of Basel 2015
- Contextual Multi-Armed Bandits  
ICCM 2015
- Contextual Multi-Armed Bandits  
City University 2015
- Active Function Learning  
MathPsych 2015

## PUBLICATIONS

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### Journal Articles

- Wu, Charley M, Eric Schulz, Maarten Speekenbrink, Jonathan D Nelson, and Björn Meder. “Exploration and generalization in vast spaces”. *bioRxiv* (2017): 171371. Print.
- Schulz, Eric, Maarten Speekenbrink, and Andreas Krause. “A tutorial on Gaussian process regression with a focus on exploration-exploitation scenarios”. *bioRxiv* (2017): 095190. Print.
- Schulz, Eric, Joshua B Tenenbaum, David Duvenaud, Maarten Speekenbrink, and Samuel J Gershman. “Compositional Inductive Biases in Function Learning”. *bioRxiv* (2017): 091298. Print.
- Schulz, Eric, Emmanouil Konstantinidis, and Maarten Speekenbrink. “Putting bandits into context: How function learning supports decision making”. *Journal of Experimental Psychology: Learning, Memory, and Cognition* (2017). Print.
- Dasgupta, Ishita, Eric Schulz, and Samuel J Gershman. “Where do hypotheses come from?” (2016). Print.
- Cokely, Edward T, Mirta Galesic, Eric Schulz, Saima Ghazal, and Rocio Garcia-Retamero. “Measuring risk literacy: The Berlin numeracy test”. *Judgment and Decision Making* 7.1 (2012): 25. Print.
- Cokely, Edward T, Saima Ghazal, Mirta Galesic, Rocio Garcia-Retamero, and Eric Schulz. “How to measure risk comprehension in educated samples”. *Transparent Communication of Health Risks* (2012): 29–52. Print.
- Schulz, Eric, Edward T Cokely, and Adam Feltz. “Persistent bias in expert judgments about free will and moral responsibility: A test of the expertise defense”. *Consciousness and Cognition* 20.4 (2011): 1722–1731. Print.

## REFEREES

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**Prof. Samuel J. Gershman**

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**Prof. Joshua B. Tenenbaum**

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