

Uri Shalit

Curriculum vitae

Statistics & Information Systems Engineering
Faculty of Industrial Engineering and Management
Technion - Israel Institute of Technology

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Employment

Technion - Israel Institute of Technology
Faculty of Industrial Engineering.
Areas: Statistics & Information Systems Engineering

Start date: Sep. 1st, 2017

Education

New York University 2015 - 2017
Postdoctoral researcher
• Prof. David Sontag's Clinical Machine Learning Lab

Hebrew University of Jerusalem 2009 - 2015
Ph.D. , Machine Learning and Neural Computation
• Thesis title: "Scalable streaming learning of dyadic relationships"
• Advisors: Prof. Daphna Weinshall (Hebrew University) & Prof. Gal Chechik (Bar-Ilan University & Google Research)

Hebrew University of Jerusalem 2006 - 2009
M.Sc. Neural Computation
• Magna cum laude

Hebrew University of Jerusalem 2003 - 2006
B.Sc. Mathematics (major, extended) and History (minor)
• Magna cum laude

Publications

Journal Papers

- Uri Shalit, Daphna Weinshall and Gal Chechik, "Online Learning in the Embedded Manifold of Low-rank Matrices", *Journal of Machine Learning Research*, vol. 13, pp. 429-458, 2012.
- Uri Shalit, Nofya Zinger, Mati Joshua and Yifat Prut, "Descending Systems Translate Transient Cortical Commands into a Sustained Muscle Activation Signal", *Cerebral Cortex*, vol. 22, pp. 1904-1914, 2012.
(Cerebral Cortex is ranked 11th in the field of Neurology according to Google Scholar Metrics)
- Noa Liscovitch*, Uri Shalit* and Gal Chechik, "FuncISH: learning a functional representation of neural ISH images", *Bioinformatics*, vol. 29(13), pp. i36-i43, 2013. *equal contribution
(Bioinformatics is ranked 1st in the field of Bioinformatics and Computational Biology according to Google Scholar Metrics)

- Gal Chechik, Varun Sharma, [Uri Shalit](#) and Samy Bengio, “Large Scale Online Learning of Image Similarity through Ranking”, *Journal of Machine Learning Research*, vol. 11, pp. 1109-1135, 2010.
- Ran Harel, Itay Asher, Oren Cohen, Zvi Israel, [Uri Shalit](#), Yuval Yanai, Nofya Zinger and Yifat Prut, “Computation in spinal circuitry: Lessons from behaving primates”, *Behavioural Brain Research*, vol. 194(2), pp. 119-128, 2008.

Peer Reviewed Conference Papers

- Christos Louizos, [Uri Shalit](#), Joris Mooij, David Sontag, Richard Zemel, Max Welling, “Causal Effect Inference with Deep Latent-Variable Models”, *To appear, NIPS 2017* (*arXiv preprint, arXiv:1705.08821*).
- [Uri Shalit](#)*, Fredrik Johansson* and David Sontag, “Estimating individual treatment effect: generalization bounds and algorithms”, *Proceedings of the 34th International Conference on Machine Learning (ICML 2017)*, pp. 3076-3085.
*equal contribution
(~25% acceptance rate)
- Rahul G. Krishnan, [Uri Shalit](#) and David Sontag, “Structured Inference Networks for Nonlinear State Space Models”, *Proceedings of the 31st AAAI Conference on Artificial Intelligence (AAAI 2017)*, pp. 2101-2109
(~25% acceptance rate)
- Fredrik Johansson*, [Uri Shalit](#)*, David Sontag, “Learning Representations for Counterfactual Inference”, *Proceedings of the 33rd International Conference on Machine Learning (ICML 2016)*, pp. 3020-3029.
*equal contribution
(~25% acceptance rate)
- Yuval Atzmon, [Uri Shalit](#) and Gal Chechik, “Learning Sparse Metrics, One Feature at a Time”, *JMLR Workshop and Conference Proceedings Volume 44: Feature Extraction: Modern Questions and Challenges*, pp. 1-20, 2015.
- [Uri Shalit](#) and Gal Chechik, “Coordinate-descent for learning orthogonal matrices through Givens rotations”, *Proceedings of the 31st International Conference on Machine Learning (ICML 2014)*, pp. 548-556, 2014.
(~25% acceptance rate)
- [Uri Shalit](#), Daphna Weinshall and Gal Chechik, “Modeling Musical Influence with Topic Models”, *International Conference on Machine Learning (ICML 2013), Journal of Machine Learning Workshop & Conference Proceedings*, vol. 28(2), pp. 244-252, 2013.
(~25% acceptance rate)
- [Uri Shalit](#), Daphna Weinshall and Gal Chechik, “Online Learning in the Manifold of Low-rank Matrices”, *Advances in Neural Information Processing Systems (NIPS)*, pp. 2128-2136, 2010.
(spotlight presentation, 6% acceptance rate)
- Gal Chechik, [Uri Shalit](#), Varun Sharma, and Samy Bengio, “An Online Algorithm for Large Scale Image Similarity Learning”, *Advances in Neural Information Processing Systems (NIPS)*, pp. 306-314, 2009.
(poster presentation, 24% acceptance rate)
- Gal Chechik, Varun Sharma, [Uri Shalit](#) and Samy Bengio, “Online Learning of Image Similarity Through Ranking”, *4th Iberian Conference on Pattern Recognition and Image Analysis (IbPRIA) 2009*.
(extended abstract)

Doctoral Dissertation

- [Uri Shalit](#), “Scalable streaming learning of dyadic relationships”, *Hebrew University of Jerusalem*, 2016.

Preprints

- Vincent Dorie, Jennifer Hill, [Uri Shalit](#), Marc Scott, Dan Cervone, “Automated versus do-it-yourself methods for causal inference: Lessons learned from a data analysis competition”, *arXiv preprint arXiv:1707.02641*.
- Rahul G. Krishnan, [Uri Shalit](#) and David Sontag, “Deep Kalman Filters”, *arXiv preprint, arXiv:1511.05121, 2015*.

Invited Talks

- “Learning Representations for Counterfactual Inference”, *NIPS 2016 Deep Learning Symposium*
- “Efficient coordinate-descent for orthogonal matrices through Givens rotations”, *Symposium on coordinate descent methods at the SIAM Conference on Optimization, 2014*

Tutorials

- “Causal inference for observational studies”, *33rd International Conference on Machine Learning (ICML 2016)*

Workshop & Conference Presentations

- Leo Anthony Celi, Ken Jung, Marzyeh Ghassemi, Carlos Guzman, [Uri Shalit](#) and David Sontag, “An Open Benchmark for Causal Inference Using the MIMIC-III and Philips Datasets”, *2016 Observational Health Data Sciences and Informatics (OHDSI) Symposium*
- [Uri Shalit](#), Fredrik Johansson and David Sontag, “Bounding and Minimizing Counterfactual Error.”, *Workshop on Reliable Machine Learning in the Wild, ICML 2016*
- Rahul G. Krishnan, [Uri Shalit](#) and David Sontag, “Deep Kalman Filters”, *Workshop on Machine Learning for Healthcare, NIPS 2015*
- Rahul G. Krishnan, [Uri Shalit](#) and David Sontag, “Deep Kalman Filters”, *Workshop on Black Box Learning and Inference, NIPS 2015*
- Rahul G. Krishnan, [Uri Shalit](#) and David Sontag, “Deep Kalman Filters”, *Workshop on Advances in Approximate Bayesian Inference, NIPS 2015*
- [Uri Shalit](#), Tal El-Hay, Chen Yanover and Ya’ara Goldschmidt, “Robust Treatment Effect Estimation Using Kernel Mean Matching”, *New York Machine Learning Symposium, 2015*.
- [Uri Shalit](#) and Gal Chechik, “Efficient coordinate-descent for orthogonal matrices through Givens rotations”, *Large Scale Matrix Analysis and Inference, NIPS Workshop, 2013*.
- [Uri Shalit](#), Daphna Weinshall and Gal Chechik, “Modeling Musical Influence with Topic Models”, *Topic Models: Computation, Application, and Evaluation, NIPS Workshop, 2013*.
- [Uri Shalit](#), Daphna Weinshall and Gal Chechik, “Online Learning in the Manifold of Low-rank Matrices”, *Low-rank Methods for Large-scale Machine Learning, NIPS Workshop, 2010*.
- [Uri Shalit](#), Yuval Yanai, Nofya Zinger and Yifat Prut, “Studying the information content of cortical and spinal neurons during voluntary wrist movements”, *The Israeli Society for Neuroscience 17th meeting 2008*.

Awards and Honors

- The Google Europe Fellowship in Machine Learning 2011-2014
- The First Daniel Amit Fellowship 2010-2011
For research on developing an information-theoretic framework for studying neural motor representation. Awarded annually to two faculty students for significant contribution in computational neuroscience.
- Alice and Jack Ormut Foundation PhD Fellowship for students 2007-2011
- Hebrew University, graduated magna cum laude 2006
- Hebrew University, merit scholarship 2003-2004, 2005-2006
Awarded annually to top 10 % of undergraduate students.
- Special citation by the head of the Israeli intelligence for an outstanding project 2002
Awarded annually to a dozen officers in the Israeli intelligence community.

Academic Service & Teaching Work

- **Organizing**
 - NIPS 2016 Workshop on Machine Learning for Health
 - Causal inference data analysis competition at the 2016 Atlantic Causal Inference Conference
- **Reviewing**
 - Journal of Machine Learning Research
 - Conference on Neural Information Processing Systems (NIPS)
(outstanding reviewer award, 2013)
 - International Conference on Machine Learning (ICML)
(outstanding reviewer award, 2016)
 - IEEE Transactions on Pattern Analysis and Machine Intelligence
 - Machine Learning
 - Journal of the American Medical Informatics Association
 - Computational Learning Theory (COLT)
 - AAAI Conference on Artificial Intelligence
 - Conference on Artificial Intelligence and Statistics (AISTATS)
 - Computational Statistics
 - Conference on Computer Vision and Pattern Recognition (CVPR)
 - European Conference on Computer Vision
 - Conference on Uncertainty in Artificial Intelligence
 - Journal of Medical Internet Research
 - Conference on Machine Learning in Healthcare

- **Teaching**
 - Neural Networks and Computational Learning
(graduate course, Fall 2010, 2011, 2012)
 - Computational Methods for Neuroscience
(undergraduate course, Spring 2010, 2011)

Applied Research

- **IBM Research, Israel** 2014
 - Research intern*
 - Machine learning methods for observational studies, applied to healthcare research
- **Yahoo! Labs, Israel** 2013
 - Research intern*
 - Theoretical foundations of large-scale incremental collaborative filtering
- **Taptica Ltd.** 2013
 - Data Analysis and Algorithms Consultant*
 - Creating contextual ad-placement product for extremely fast real-time bidding systems