Melih Barsbey

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SUMMARY	Computer engineering PhD student with a research focus on probabilistic machine learning: causal discovery, graphical models, latent variable models, matrix/tensor factorizations. Advised by Prof. A. Taylan Cemgil of Boğaziçi University (on research leave in Google DeepMind London). Also an industry practitioner with experience on time series analysis and high dimensional financial data. Background in research and statistical inference in cognitive science.

EDUCATION

Boğaziçi University, Istanbul, Turkey

- Ph.D. in Computer Engineering   Sep 2016 – Present
  - Focus: Machine learning, Bayesian statistics
  - Advisor: Prof. A. Taylan Cemgil (2018 - Present)
  - Proficiency completed in Jun 2018
  - Cumulative GPA: 4.00 / 4.00

- M.A. in Psychology   Sep 2011 – Aug 2014
  - Focus: Cognitive science of mental representations
  - Cumulative GPA: 4.00 / 4.00

- B.A. in Psychology   Sep 2007 – Jun 2011
  - Cumulative GPA: 3.79 / 4.00
  - Change of major at the end of first year from Industrial Engineering to Psychology with a GPA of 3.52 / 4.00

Robert College, Istanbul, Turkey   Sep 2002 – Jun 2007
  - High School

BUSINESS EXPERIENCE AND ACADEMIC APPOINTMENTS

Arute Solutions Software Consulting Inc., Istanbul, Turkey

- Senior Data Scientist   Sep 2017 – Present
  - Time series analysis on financial interaction data
  - Statistical learning on high dimensional data sets

Acıbadem University, Istanbul, Turkey

- Instructor, Department of Psychology   Nov 2014 – Sep 2017
  - Courses Taught: Descriptive and Inferential Statistics, Psycholinguistics

Boğaziçi University, Istanbul, Turkey

- Research Assistant, Department of Psychology   Nov 2012 – Sep 2014
  - Courses Assisted: Statistics for Behavioral Sciences

University of California, Berkeley, California, U.S.A.

- Visiting Researcher, Department of Psychology   Aug 2012 – Oct 2012
  - Researcher in Concepts and Cognition Lab

AWARDS & SCHOLARSHIPS

- University Entrance Exam; Science and Mathematics National Placement: 50th. *Among 1,600,000 participants*.   2007
- GRE Scores – Verbal Reasoning: 170 / 170. Quantitative Reasoning: 170 / 170. Analytical Writing: 5.0 / 6.0   2014
- M.A. Scholarship from The Scientific and Technological Research Council of Turkey (TÜBİTAK)   2012 – 2014
- PhD Scholarship from The Scientific and Technological Research Council of Turkey (TÜBİTAK)   2016 – Present

PUBLICATIONS AND PREPRINTS

CONFERENCES AND OTHER SCIENTIFIC MEETINGS

[6] Kurutmaz, M. B.[*], **Barsbey, M.**[*], Cemgil, A. T., Yıldırım, S., & Şimşekli, U. *Bayesian Model Selection for Identifying Markov Equivalent Causal Graphs*. Paper presented at *Advances in Approximate Bayesian Inference*, 2019. *Equal contribution

[5] Kurutmaz, M. B., Cemgil, A. T., Şimşekli, U., **Barsbey, M.**, & Yıldırım, S. *Bayesian Learning of Non-Negative Matrix/Tensor Factorizations by Simulating Pólya Urns*. Paper presented at Symposium on Advances in Approximate Bayesian Inference, Montréal, Canada, Dec 2018.

[4] **Barsbey, M.** *Heuristics in an agent-based simulation: Investigating the effect of model complexity on learning performance.* Poster presented at Summer Institute on Bounded Rationality by Max Planck Institute on Human Development, Berlin, Germany, Jul 2017.

[3] **Barsbey, M.**, & Lombrozo, T., *Linguistic differences in explanation requests and their effects on the evaluation of explanations: the case of English and Turkish.* Poster presented at the annual meeting of the Cognitive Science Society, Berlin, Germany. Aug 2013.

[2] **Barsbey, M.**, Coşkun, T., Selçuk, Ş., & Ülkümen, A. D., *Mortality Salience and Self-Defining Memories.* Poster presented at the annual meeting of Center on Autobiographical Memory Research, Aarhus, Jun 2013.

[1] **Barsbey, M.**, Aktan, D. N., & Bayram, O., *The effect of ambient temperature on decision making processes.* Poster presented at the biennial meeting of the Turkish Psychology Society, Istanbul, Turkey, Apr 2012.

PREPRINTS

[2] Cemgil, A. T., Kurutmaz, M. B., Yildirim, S., **Barsbey, M.**, Simsekli, U. *Bayesian Allocation Model: Inference by Sequential Monte Carlo for Nonnegative Tensor Factorizations and Topic Models using Polya Urns. arXiv preprint arXiv:1903.04478.* Mar 2019.

[1] **Barsbey, M.** *Perceptual simulations beyond the sentence: the effect of narrative shifts on perceptual simulations.* Unpublished master's thesis. Boğaziçi University, Istanbul, Turkey, Aug 2014.

PROGRAMMING AND SOFTWARE SKILLS	▪ Python, Julia, C/C++ ▪ TensorFlow, Python scientific computation libraries ▪ MATLAB, SQL, LaTeX, SPSS

PROFESSIONAL ACTIVITIES

Summer Institute on Bounded Rationality: Predictions under Uncertainty,
  Max Planck Institute on Human Development, Berlin, Germany

▪ Participant & Researcher   2017

RELEVANT GRADUATE COURSEWORK

▪ Artificial Neural Networks
▪ Natural Language Processing
▪ How to Generate (Almost) Anything: Deep Generative Models
▪ Monte Carlo Methods
▪ Principles of Artificial Intelligence
▪ Mathematical Fundamentals of Artificial Intelligence
▪ Complex Networks
▪ Evolutionary Systems

LANGUAGES

▪ Turkish (Native)
▪ English (Advanced)
▪ German (Intermediate)

[CV compiled on 2020-02-08]