Ömer Deniz Akyıldız

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EDUCATION

PhD, Signal Processing, Carlos III University of Madrid, Spain. *(Expected)* 2018
Thesis Title: Stochastic Filtering in High Dimensions
Supervisor: Joaquin Miguez.

MSc, Telecommunications Engineering, Istanbul Technical University, Turkey. 2012
Thesis Title: A Structured Sparse Decomposition Method for Audio Signals

BSc, Telecommunications Engineering, Istanbul Technical University, Turkey. 2010
Thesis Title: Anisotropic Diffusion in Image Processing

PAPERS

1. *"On the Relationship between Online Optimizers and Recursive Filters"*, Ö. D. Akyıldız, V. Elvira, J. Fernandez-Bes, J. Miguez, NIPS Workshop on Optimizing the Optimizers, Barcelona, Spain, 2016.

2. *"Matrix Factorisation with Linear Filters"*, Ö. D. Akyıldız, Preprint, arXiv:1509.02088, 2015.

3. *"Online Matrix Factorization via Broyden Updates"*, Ö. D. Akyıldız, Preprint, arXiv:1506.04389, 2015.

4. *"Primal-Dual Algorithms for Audio Decomposition Using Mixed Norms"*, İ. Bayram, Ö. D. Akyıldız, Journal of Signal, Image and Video Processing, 2014.

5. *"An Analysis Prior Based Decomposition Method for Audio Signals"*, Ö. D. Akyıldız and İ. Bayram, EUSIPCO 2012.

WORK EXPERIENCE

Research Associate, Carlos III University of Madrid, Spain. 2015 –
with Signal Processing Group (GTS).
on *stochastic filters; Monte Carlo methods.*

Research Assistant, Boğaziçi University, Istanbul, Turkey. 2012 – 2015
under the supervision of A. Taylan Cemgil with Statistical Inference Group.
on *Bayesian statistics; machine learning; probabilistic inference.*

Quantitative Researcher, algosis inc. 2014 – 2015
on *financial time series analysis; portfolio optimization; algorithmic trading.*

Research Assistant, Istanbul Technical University, Turkey. 2010 – 2012
on *convex optimisation; machine learning; signal processing.*

VISITS & CONFERENCES

NIPS Conference, Barcelona, Spain. 5-10 December 2016.

European Workshop on Reinforcement Learning, Barcelona, Spain. 3-4 December 2016.

IEEE Workshop on Statistical Signal Processing, Palma, Spain. 26-29 June 2016.

School of Mathematical Sciences, Queen Mary University of London, UK.
- 14-24 December 2015 / 1-5 February 2016 / 16-20 May 2016

Workshop on Sequential Monte Carlo, Imperial College London, UK. 21-23 Dec. 2015

TEACHING EXPERIENCE	*Teaching Assistant* (Voluntarily), Boğaziçi University, Istanbul, Turkey. Monte Carlo methods (graduate course) × 3	2013 – 2015
	Instructor: A. Taylan Cemgil, Dept. of Computer Engineering.	
	Bayesian statistics and machine learning (graduate course) × 2	2013 – 2014
	Instructor: A. Taylan Cemgil, Dept. of Computer Engineering.	

SKILLS MATLAB, Python, LaTeX.

GRADUATE SCHOOLS

Spring School and Workshop on Volatility Dynamics 10-13 April 2017
Bernoulli Center, EPFL, Lausanne, Switzerland.

Summer School on Uncertainty Quantification for Applied Problems 4-8 July 2016
Basque Center for Applied Mathematics, Bilbao, Spain.

Machine Learning Summer School 13-24 July 2015
Max Planck Institute of Intelligent Systems, Tübingen, Germany.
(accepted with extremely competitive full financial support.)

Foundations and Advances in Stochastic Filtering 22-26 June 2015
Barcelona, Spain.

Lectures on Large Deviations and Probability Models 1-8 September 2013
Mathematics Village, Şirince, Turkey.

HONORS

- Protel A.Ş. Graduate Fellowship 2010 – 2012
- Istanbul Metropolitan Municipality Undergraduate Fellowship 2005 – 2008
- Premiership Undergraduate Fellowship 2005 – 2010

TALKS

Talks that I gave.
- Filtering in high-dimensional spaces, at UC3M November 14, 2016
- Matrix Factorisation with Linear Filters, at UC3M October 22, 2015
- Particle methods for parameter estimation, at Bogazici March 31, 2015
- An online EM algorithm and applications, at Bogazici November 26, 2013
- Stochastic approximations, at Bogazici March 26, 2013
- Learning in Linear Dynamical Systems, at Bogazici January 21, 2013

OTHER I play guitar and drums, I like to read philosophy, I maintain a research blog:
http://www.almoststochastic.com.