Ömer Deniz Akyıldız

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EDUCATION

PhD, Signal Processing, Carlos III University of Madrid, Spain.　　　　Ongoing
Thesis Theme: Filtering methods for high dimensional inference and optimization
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

Visiting Research Scientist, Fraunhofer HHI, Berlin, Germany.　　　　August 2017
on *proximal splitting methods; sparse dictionary learning.*

Research Associate, Carlos III University of Madrid, Spain.　　　　2015 –
with Signal Processing Group (GTS).
on *stochastic filters; stochastic optimisation; 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) $\times$ 3 Instructor: A. Taylan Cemgil, Dept. of Computer Engineering.	2013 – 2015
	Bayesian statistics and machine learning (graduate course) $\times$ 2 Instructor: A. Taylan Cemgil, Dept. of Computer Engineering.	2013 – 2014

SKILLS   MATLAB, C, Python, LaTeX.

GRADUATE SCHOOLS	*Dobbiaco Summer School on Probabilistic Numerics* Dobbiaco, Italy.	19-23 June 2017
	Spring School and Workshop on Volatility Dynamics Bernoulli Center, EPFL, Lausanne, Switzerland.	10-13 April 2017
	Summer School on Uncertainty Quantification for Applied Problems Basque Center for Applied Mathematics, Bilbao, Spain.	4-8 July 2016
	Machine Learning Summer School Max Planck Institute of Intelligent Systems, Tübingen, Germany. (accepted with extremely competitive full financial support.)	13-24 July 2015
	Foundations and Advances in Stochastic Filtering Barcelona, Spain.	22-26 June 2015
	Lectures on Large Deviations and Probability Models Mathematics Village, Şirince, Turkey.	1-8 September 2013

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.*

- A Filtering Approach to Stochastic Optimisation, at UC3M   June 6, 2017
- 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.