

**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. *Adaptive noisy importance sampling for stochastic optimization*, Ö. D. Akyıldız, I. P. Marino, J. Miguez, IEEE CAMSAP 2017.
  2. *Nudging the Particle Filter*, Ö. D. Akyıldız, J. Miguez, [arXiv:1708.07801](#).
  3. *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.
  4. *Matrix Factorisation with Linear Filters*, Ö. D. Akyıldız, Preprint, [arXiv:1509.02088](#), 2015.
  5. *Online Matrix Factorization via Broyden Updates*, Ö. D. Akyıldız, Preprint, [arXiv:1506.04389](#), 2015.
  6. *Primal-Dual Algorithms for Audio Decomposition Using Mixed Norms*, İ. Bayram, Ö. D. Akyıldız, Journal of Signal, Image and Video Processing, 2014.
  7. *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; stochastic optimisation; Monte Carlo methods.*

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

*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** SMC 2017 Workshop, Uppsala, Sweden 29 August – 1 September 2017

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

|                                |   |  |
|--------------------------------|---|--|
|                                | European Workshop on Reinforcement Learning, Barcelona.   | 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.<br>• 14/12 – 24/12 2015 — 1/2 – 5/2 2016 — 16/5 – 20/5 2016   |  |
|                                | Sequential Monte Carlo Workshop, Imperial College London, UK.   | 21-23 Dec. 2015  |
| <b>TEACHING<br/>EXPERIENCE</b> | <i>Teaching Assistant</i> (Voluntarily), Boğaziçi University, Istanbul, Turkey.<br>Monte Carlo methods (graduate course) $\times$ 3<br>Instructor: A. Taylan Cemgil, Dept. of Computer Engineering.   | 2013 – 2015  |
|                                | Bayesian statistics and machine learning (graduate course) $\times$ 2<br>Instructor: A. Taylan Cemgil, Dept. of Computer Engineering.   | 2013 – 2014  |
| <b>SKILLS</b>                  | MATLAB, C, Python, LaTeX.   |  |
| <b>GRADUATE<br/>SCHOOLS</b>    | <i>Dobbiaco Summer School on Probabilistic Numerics</i><br>Dobbiaco, Italy.   | 19-23 June 2017  |
|                                | <i>Spring School and Workshop on Volatility Dynamics</i><br>Bernoulli Center, EPFL, Lausanne, Switzerland.  | 10-13 March 2017   |
|                                | <i>Summer School on Uncertainty Quantification for Applied Problems</i><br>Basque Center for Applied Mathematics, Bilbao, Spain.  | 4-8 July 2016  |
|                                | <i>Machine Learning Summer School</i><br>Max Planck Institute of Intelligent Systems, Tübingen, Germany.<br>(accepted with extremely competitive full financial support.)   | 13-24 July 2015  |
|                                | <i>Foundations and Advances in Stochastic Filtering</i><br>Barcelona, Spain.  | 22-26 June 2015  |
| <b>HONORS</b>                  | • Protel A.Ş. Graduate Fellowship<br>• Istanbul Metropolitan Municipality Undergraduate Fellowship<br>• Premiership Undergraduate Fellowship  | 2010 – 2012<br>2005 – 2008<br>2005 – 2010  |
| <b>TALKS</b>                   | • Adaptive noisy importance sampling, at UC3M<br>• A filtering approach to stochastic optimisation, at UC3M<br>• Filtering in high-dimensional spaces, at UC3M<br>• Matrix Factorisation with Linear Filters, at UC3M<br>• Particle methods for parameter estimation, at Bogazici<br>• An online EM algorithm and applications, at Bogazici<br>• Stochastic approximations, at Bogazici<br>• Learning Linear Dynamical Systems, at Bogazici | June 6, 2017<br>June 6, 2017<br>November 14, 2016<br>October 22, 2015<br>March 31, 2015<br>November 26, 2013<br>March 26, 2013<br>January 21, 2013 |