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CONTACT	<i>Address:</i> ** **, ** Berlin <i>Mobile:</i> **	
EDUCATION	<b>Berlin Technical University</b> , Berlin, Germany <b>Ph.D. in Communication Engineering</b> • Thesis: Efficient Pareto Frontier Algorithms for Computing Structured Signal Representations, Supervised by Prof. Sławomir Stańczak	2015-2021
	<b>Istanbul Technical University (ITU)</b> , Istanbul, Turkey <b>M.Sc. in Communication Engineering</b> • Thesis: Lognormal Mixture Shadowing, Supervised by Assoc. Prof. Güneş Karabulut Kurt	2012-2014
	<b>Braunschweig Technical University</b> , Braunschweig, Germany <b>B.Sc. in Electronics Engineering</b> • Erasmus Exchange Program	2010-2010
	<b>Istanbul Technical University (ITU)</b> , Istanbul, Turkey <b>B.Sc. in Electronics Engineering</b> • Thesis: Analysis of ZigBee in Smart Grid Applications Supervised by Assoc. Prof. Güneş Karabulut Kurt	2008-2012
RESEARCH INTERESTS	Wireless Communications, Signal Processing, Frame Theory, Compressed Sensing, Low-Rank Matrix Recovery, Learning-Based Solutions (AI Approaches) for Inverse Problems in Communication, Signal Processing, Convex analysis.	
PUBLICATIONS	<p>[<b>Journal</b>] <b>M. Vural</b>, C. Yuan, N. Kleppmann, P. Jung and S. Stańczak, "Illinois-Type Methods for Noisy Euclidean Distance Realization," in <i>IEEE Signal Processing Letters</i>, vol. 29, pp. 2687-2691, 2022, doi: 10.1109/LSP.2022.3230371.</p> <p>[<b>Journal</b>] <b>M. Vural</b>, A. Y. Aravkin and S. Stańczak, "<math>\ell_1</math>-Norm Minimization With Regula Falsi Type Root Finding Methods," in <i>IEEE Signal Processing Letters</i>, vol. 28, pp. 2132-2136, 2021, doi: 10.1109/LSP.2021.3120327.</p> <p>[<b>Conference</b>] <b>M. Vural</b>, C. Yuan, N. Kleppmann, P. Jung, "Robust Distance Matrix Completion for Localization using Frank-Wolfe Iterations," <i>Asilomar Conference on Signals, Systems, and Computers (Asilomar)</i>, 2021</p> <p>[<b>Conference</b>] <b>M. Vural</b>, C. Yuan, N. Kleppmann, P. Jung, "A Semidefinite Programming Approach for Obstacle Prediction and Localization," <i>25th International ITG Workshop on Smart Antennas (WSA)</i>, 2021 (invited paper)</p> <p>[<b>Conference</b>] M. Vural, P. Jung and S. Stańczak, "Effect of anti-sparse prior on PAPR performance analysis," <i>2017 25th Signal Processing and Communications Applications Conference (SIU)</i>, 2017, pp. 1-4, doi: 10.1109/SIU.2017.7960517.</p> <p>[<b>Conference</b>] M. Vural, P. Jung and S. Stańczak, "A new outlier detection method based on anti-sparse representations," <i>2017 25th Signal Processing and Communications Applications Conference (SIU)</i>, 2017, pp. 1-4, doi: 10.1109/SIU.2017.7960516.</p> <p>[<b>Conference</b>] <b>M. Vural</b>, P. Jung and S. Stanczak, "On Some Physical Layer Design Aspects for Machine Type Communication," <i>WSA 2016; 20th International ITG Workshop on Smart Antennas</i>, 2016, pp. 1-8.</p> <p>[<b>Conference</b>] <b>Metin Vural</b>, Güneş Karabulut Kurt, Christian Schneider, "The Effect of Shadow Fading Distributions on Outage Probability and Coverage Area," <i>IEEE Vehicular Technology Conference (VTC 2015-Spring)</i>, Glasgow, Scotland 2015.</p> <p>[<b>Journal</b>] Saliha Büyükçorak, <b>Metin Vural</b>, Güneş Karabulut Kurt, "Lognormal Mixture Shadowing," <i>IEEE Transactions on Vehicular Technology</i>, vol.64, no.10, pp.4386-4398, Oct. 2015.</p>	

[Conference] **Metin Vural**, Pamir Erdem, and Onur Ađın, “Regression Clustering With Lower Error via EM Algorithm,” *IEEE Conference on Signal Processing, Communications, and their Applications (SIU 2014)*, Trabzon, April 2014.

[Conference] **Metin Vural**, and Güneş Karabulut Kurt, “Effect of cooperative communications on power consumption in smart grid,” *IEEE Conference on Signal Processing, Communications, and their Applications (SIU 2013)*, Cyprus, April 2013.

[Conference] Zeynep Özdemir, **Metin Vural**, Özge Cepheli, and İbrahim Hökelek, “Performance Analysis of Wireless Sensor Networks by Using NS-2,” *2013 European Conference of Technology and Society (EuroTecS-2013)*, Sarajevo, Bosnia, June 2013.

[Conference] N. Uçar, G. Karabulut, B. Yağcı, B. Görgün, O. Ceylan, **M. Vural**, B. Badur, B. Başkan, S. Cakın, C. Bozkurt, E. G. Akay, “Monitoring The Vital Signals: Smart Garment For Temperature Sensing Sensor Networks,” *5th International Technical Textiles Congress*, İzmir, November 2012.

PUBLICATIONS  
(ABOUT TO BE  
SUBMITTED)

[Journal] **M. Vural**, P. Jung and S. Stańczak, “ $\ell_p$ -norm Minimization with Simple Iterations,” to be submitted to *IEEE Transactions on Signal Processing*

[Journal] **M. Vural** et al. “Interference Management for mmWave Cell-less Networks,” to be submitted to *IEEE Signal Processing Letters*

AWARDS AND  
ACHIEVEMENTS

BIDEB Graduate Priority Subject Areas Scholarship from TUBITAK

- For studying about priority subject areas and having inventive thesis subject, includes monthly stipend for 12 months.

Score 95.64/100 in Quantitative part at Academic Personal and Graduate Study Entrance Exam (ALES) Nov. 20011

- Ranked 788<sup>th</sup> among 207.564 test takers (top 0.38%)

WORK  
EXPERIENCE

**Fraunhofer Heinrich Hertz Institute HHI**, Berlin, Germany December 2021-Present  
PostDoc Research Associate

- Development and implementation of novel algorithms and methods of machine learning and signal processing with application to the wireless communication systems and beyond.

**Technical University of Berlin**, Berlin, Germany April 2019-October 2021  
Research Assistant

- Development of multi criteria optimization strategies for signal processing and wireless communication networks applications.

**Technical University of Berlin**, Berlin, Germany 2015-2021  
PhD Researcher

**Fraunhofer Heinrich Hertz Institute HHI**, Berlin, Germany 2015-January 2022  
Visiting Researcher

**Yapı Kredi Bank (YKB)**, Gebze, Kocaeli August 2013-February 2014  
Part Time Engineer at R&D Department

- Team member of an R&D project funded by TUBITAK on forecasting and data analysis.

INTERN  
EXPERIENCE

**TUBITAK-The Scientific and Technological Research Council of Turkey**,  
Gebze, Kocaeli August-September 2010

- Designing, controlling and testing power conditioning units (DC-DC and DC-AC converters) of the fuel cells.

**WCRL-ITU Wireless Communication Research Laboratory**,  
Istanbul Technical University, Istanbul July 2011

- Designing and simulating of ZigBee by using MATLAB/Simulink

**Group Arge Energy ve Control Systems Company**,  
Istanbul June-July 2012

- Creating ZigBee models for Smart meter applications and performance analysing

RELATED  
COURSEWORK

**Graduate**

- Statistical Signal Processing
- Telecommunication Network Planning and Management
- Satellite Communication Systems
- Detection & Estimation Theory
- Information Theory
- Mobile and Personal Communications
- Image Processing
- Probability Theory and Stochastic Processes

**Undergraduate**

- Signals and Systems
- Probability & Statistics
- Telecommunication Engineering Basics
- Theory of Complex Functions
- Linear Algebra and Applications
- Calculus
- Communication Electronic Circuits
- Digital Communications
- Data Communications

TECHNICAL  
SKILLS

**Machine Learning**

- Python (Pandas, Numpy, Matplotlib, Seaborn, Scikit-learn, TensorFlow), Flask
- MLOps (Model Deployment, CI/CD, Monitoring).

**Development Tools**

- AWS (SageMaker for ML workflows, Elastic Beanstalk for app deployment)
- HPC Cluster: Utilizing High-Performance Computing cluster for parallel computing tasks.

**Others**

- MATLAB, C, Java (Beginner), C# (Beginner), Simulink, NS3

CERTIFICATES

**IBM Data Science Professional Certificate**

IBM

**Applied Data Science Specilization**

IBM

**Machine Learning Specialization**

Stanford University & DeepLearning.AI

LANGUAGES

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

REFERENCES

Available upon request.

TRANSCRIPTS

Available upon request.

WEB PAGE

<https://www.frontml.com>

(My website features/will feature a portfolio of practical projects in Applied AI.)

GOOGLE SCHOLAR

<https://scholar.google.de/citations?user=BV-Cv5EAAAAJ&hl=en>

RESEARCHGATE

<https://www.researchgate.net/profile/Metin-Vural>

LINKEDIN

<https://www.linkedin.com/in/metin-vural-10876439>