

# Batu Ozturkler

650-680-6618 | [ozt@stanford.edu](mailto:ozt@stanford.edu) | <http://stanford.edu/~ozt/>

## EDUCATION

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### Stanford University

*Ph.D. student in Electrical Engineering; GPA: 3.99/4.00*

Advisor: Prof. John Pauly

Sep 2019 – present

*Stanford, CA*

### Middle East Technical University (METU)

*Bachelor of Science in Electrical Engineering; GPA: 3.96/4.00*

Rank: **3/413**

Aug 2015 – June 2019

*Ankara, Turkey*

## EXPERIENCE

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### Research Assistant

*Magnetic Resonance Systems Research Laboratory at Stanford University (MRSRL)*

Sep 2019 – Present

*Stanford, CA*

- Convex Regularization Behind Neural Denoising and Scalable Deep Neural MRI Reconstruction
- Data-Limited MR Image Reconstruction Using Denoising Priors
- Multi-Scale Compressed Sensing for Optimal Variable Density Sampling under the supervision of Prof. David Donoho

### Undergraduate Researcher

*Imaging and Computational Neuroscience Laboratory (ICON Lab) at Bilkent University*

June 2017 – Sep. 2019

*Ankara, Turkey*

- Active learning using Determinantal Point Processes for image reconstruction and synthesis in multi-contrast MRI with conditional GANs
- Evaluation of task-related activations in fMRI, dynamic causal modelling to assess connectivity between different brain regions
- Integration of motion-correction to a compressed sensing reconstruction method across coils and acquisitions and to simultaneous-multi-slice (SMS) acquisition for bSSFP imaging under the supervision of Prof. Tolga Cukur

### Undergraduate Researcher

*STAR Research Program, Middle East Technical University*

March 2018 – June 2019

*Ankara, Turkey*

- Deep-learning based high-quality microwave imaging under the supervision of Prof. Figen Oktem

### Research Intern

*Computer Vision Laboratory at ETH Zurich*

July 2018 – August 2018

*Zurich, Switzerland*

- Comparison of beamforming and displacement tracking methods for imaging speed-of-sound with pulse-echo ultrasound under the supervision of Prof. Orcun Goksel

### Summer Intern

*Meteksan Defence*

June 2016 – July 2016

*Ankara, Turkey*

- Underwater Acoustic Systems, development of platform sonar systems

### Summer Intern

*Desistek Robotik Ltd. Şti*

July 2017 – August 2017

*Ankara, Turkey*

- Robotics, electronic speed control of motors

## PUBLICATIONS

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1. **Ozturkler, B. M.**, Sahiner, A., Pilanci, M., Vasanawala, S., Pauly, J., Mardani, M. “Scalable and Interpretable Neural MRI Reconstruction via Layer-Wise Training” ISMRM 2021 (submitted)
2. Desai, A.\*, **Ozturkler, B. M.\***, Sandino, C. S., Hargreaves, B., Pauly, J.\*, Chaudhari, A.\* (\* equal contribution), “Noise2Recon: A Semi-Supervised Framework for Joint MRI Reconstruction and Denoising using Limited Data” ISMRM 2021 (submitted)
3. Sahiner, A., Mardani, M., **Ozturkler, B. M.**, Pilanci, M., Pauly, J. “Convex Regularization Behind Neural Reconstruction”, preprint, under review as a conference paper, ICLR 2021. [Online]. Available: <https://arxiv.org/abs/2012.05169>

4. Rau, R., Ozkan, E., **Ozturkler, B. M.**, Gastli, L., Goksel, O., "Displacement Estimation Methods for Speed-of-Sound Imaging in Pulse-Echo," 2020 IEEE International Ultrasonics Symposium (IUS), Las Vegas, NV, USA, 2020, pp. 1-4, doi: 10.1109/IUS46767.2020.9251781.
5. Tokgoz, Serhat; Aydogdu, Demet; Ilhan, Barkin; Sahin, Yusuf; Bariseri, Nurtug; **Ozturkler, Batu Mehmet**; Çukur, Tolga "Musical mirror-symmetrical movement tasks: comparison of rhythm versus melody-playing", NeuroReport: May 7, 2020 - Volume 31 - Issue 7 - p 523-529 doi: 10.1097/WNR.0000000000001433

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## TECHNICAL SKILLS

**Languages:** Python, C/C++, R, MATLAB

**Libraries:** TensorFlow, PyTorch, Scikit-Learn, OpenCV, pandas, NumPy, Matplotlib

**Other:** Git, L<sup>A</sup>T<sub>E</sub>X, Docker, Google Cloud Platform, Statistical Parametric Mapping (SPM), LABVIEW, Field-II, Key Creator, Lt Spice, Agilent Vee, Quartus 2, Verilog, Microsoft Office Applications

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## AWARDS AND HONOURS

- Stanford University Electrical Engineering Departmental Fellowship (2019-2020): Full tuition waiver & stipend during the first year of the Ph.D. program.
- Three times a winner of the Bulent Kerim Altay Prize-METU: Awarded to students with a GPA of 4.00/4.00 per semester
- Graduated as a High Honor Student from METU
- Awarded the AdimODTU undergraduate research project financial support for our work on deep-learning based high-quality microwave imaging
- Admitted to Amgen Scholars European Program 2018: Full financial support for research internships at ETH Zurich
- Ranked 3rd in the Hult Prize METU 2017 competition
- Ranked 197<sup>th</sup> nationally in the University Entrance Examination in Turkey among 2 million participants

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## OTHER INTERESTS

- Published a news feature on COVID-19 testing in SIAM News:

Donoho, D., Lotfi, M., **Ozturkler, B. M.**, "The Mathematics of Mass Testing for COVID-19", SIAM News, July/August 2020. <https://sinews.siam.org/Details-Page/the-mathematics-of-mass-testing-for-covid-19>