

# Mohammad Shahdloo

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## Academic Experience

### Research

2020–present **Postdoctoral Researcher**, FMRIB Centre/University of Oxford.

2014–2020 **Graduate Researcher**, ICON Lab/Bilkent University.

### Teaching

2020–present **Tutor**, FMRIB Graduate Course, University of Oxford.

○ MR Physics

2014–2020 **Teaching Assistant**, EE Department, Bilkent University.

○ Statistical Learning

○ Computational Neuroscience

○ Biomedical Signals and Instrumentation

○ Neural Networks

○ Microcontrollers

○ Electromagnetics

## Education

Jan 2017 **Ph.D.**, Bilkent University, Ankara/Turkey, *Electrical and Electronics Engineering Department*.

Feb 2020 Electrical and Electronics Engineering

Advisor: Tolga Çukur

Dissertation title: *Optimization and Machine-Learning in MRI: Applications in Rapid MR Image Reconstruction and Encoding Models of Cortical Representations*

Sep 2014 **M.Sc.**, Bilkent University, Ankara/Turkey, *Electrical and Electronics Engineering Department*.

Dec 2016 Electrical and Electronics Engineering

Advisor: Tolga Çukur

Sep 2007 **B.Sc.**, Amirkabir University of Technology, Tehran/Iran, *Electrical Engineering Department*.

Jun 2011 Electrical Engineering/Control Engineering

Advisor: Behzad Samadi

## Experience in Industry

2014-2014 **Hardware developer**, Farineh Fanavar, Tehran, Iran.

2013-2014 **Senior software developer**, K.A.G., Tehran, Iran.

2011-2013 **RnD Engineer**, Kerman Tablo, Tehran, Iran.

## Publications

### Articles

- [5] S. U. H. Dar, M. Yurt, **M. Shahdloo**, E. Ildiz, B. Tinaz, and T. Çukur, “Prior-Guided Image Reconstruction for Accelerated Multi-Contrast MRI via Generative Adversarial Networks,” *IEEE Journal of Selected Topics in Signal Processing*, vol. 14, no. 6, pp. 1072–1087, Oct. 2020. DOI: 10.1109/JSTSP.2020.3001737.
- [4] I. Kiremitci, O. Yilmaz, E. Celik, **M. Shahdloo**, A. G. Huth, and T. Çukur, “Attentional Modulation of Hierarchical Speech Representations in a Multi-Talker Environment,” *bioRxiv*, Dec. 2020. DOI: 10.1101/2020.12.05.412957.

- [3] **M. Shahdloo**, E. Çelik, and T. Çukur, “Biased competition in semantic representation during natural visual search,” *NeuroImage*, vol. 216, no. 1, p. 116383, Aug. 2020. DOI: 10.1016/j.neuroimage.2019.116383.
- [2] **M. Shahdloo**, E. Ilicak, M. Tofghi, E. U. Saritas, A. E. Cetin, and T. Çukur, “Projection onto Epigraph Sets for Rapid Self-Tuning Compressed Sensing MRI,” *IEEE Transactions on Medical Imaging*, vol. 38, no. 7, pp. 1677–1689, Jul. 2019. DOI: 10.1109/TMI.2018.2885599.
- [1] S. U. H. Dar, M. Yurt, **M. Shahdloo**, and T. Çukur, “Synergistic Reconstruction and Synthesis via Generative Adversarial Networks for Accelerated Multi-Contrast MRI,” *arxiv*, 2018. eprint: 1805.10704v1.

#### Peer Reviewed Conference Publications

- [7] S. U. H. Dar, M. Yurt, **M. Shahdloo**, and T. Çukur, “Joint recovery of variably accelerated multi-contrast mri acquisitions via generative adversarial networks,” in *27th annual meeting of the International Society for MR in Medicine (ISMRM)*, Montreal, Jun. 2019, p. 0666.
- [6] **M. Shahdloo**, M. Acar, and T. Çukur, “Attention during story listening modulates temporal receptive windows across human cortex,” in *Conference for Cognitive Computational Neuroscience (CCN)*, Berlin, Sep. 2019, PS–1A.52.
- [5] **M. Shahdloo** and T. Çukur, “Trade-off between fat-suppression and partial-voluming in weighted combination alternating repetition-time (ATR) balanced SSFP,” in *36th annual meeting of the European Society for MR in Medicine and Biology (ESMRMB)*, Rotterdam, Oct. 2019, p. L06.09.
- [4] **M. Shahdloo**, B. Ürgen, E. Çelik, and T. Çukur, “Attention to action categories shifts semantic tuning toward targets across the brain,” in *25th annual meeting of the Organization for Human Brain Mapping (OHBM)*, Rome, Jun. 2019, T661.
- [3] **M. Shahdloo**, E. Ilicak, M. Tofghi, E. U. Saritas, A. E. Cetin, and T. Çukur, “Rapid self-tuning compressed-sensing MRI using projection onto epigraph sets,” in *26th annual meeting of the International Society for MR in Medicine (ISMRM)*, Paris, Jun. 2018, p. 0251.
- [2] **M. Shahdloo** and T. Çukur, “Biased competition in semantic representations during category-based visual search,” in *23rd annual meeting of the Organization for Human Brain Mapping (OHBM)*, Vancouver, Jun. 2017.
- [1] **M. Shahdloo**, E. Ilicak, M. Tofghi, E. U. Saritas, A. E. Cetin, and T. Çukur, “Adaptive wavelet thresholding for profile-encoding reconstruction of balanced steady-state free precession acquisitions,” in *34th annual meeting of the European Society for MR in Medicine and Biology (ESMRMB)*, Barcelona, Oct. 2017.

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#### Invited Talks

- 2021 Voxelwise modelling: unraveling natural perception, NeuroTRACT symposium, *online*
- 2020 Mapping language representation in the brain using deep models, 7th Iranian Human Brain Mapping Congress, *online*
- 2019 Biased competition in semantic representations during visual search, Institute for Advanced Studies in Basic Sciences (IASBS), Zanzan

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#### Honors and Awards

- 2014–2021 Full scholarship granted by Bilkent University for graduate studies
- 2012 Ranked 28th among 100k participants in Iranian national higher education examination
- 2006 Bronze medal in the Iranian National Physics Olympiad

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#### Community Service

- Editorial Frontiers in Neuroscience
- board OHBM Aperture

Ad-hoc IEEE Transactions on Medical Imaging  
reviewing ISMRM  
Conference on Cognitive Computational Neuroscience (CCN)

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## Scientific Organization Memberships

- International Society for MR in Medicine (ISMRM)
- Organization for Human Brain Mapping (OHBM)
- European Society for MR in Medicine and Biology (ESMRMB)

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## References

- Dr. Mark Chiew,  
FMRIB Centre, University of Oxford,  
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- Dr. Tolga Çukur,  
EEE Dept. and UMRAM, Bilkent University,  
cukur@ee.bilkent.edu.tr