Mahmut Yurt

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Education

Bilkent University Ankara, Turkey
M. Sc. in Electrical and Electronics Engineering, CGPA: 4.00/4.00 *July 2019 – June 2021*

Bilkent University Ankara, Turkey
B. Sc. in Electrical and Electronics Engineering, CGPA: 3.88/4.00 *September 2014 – June 2019*

Honors & Awards

National University Entrance Exam (LYS)
Ranked 27th among 2.0 million students in Turkey *2014*

Academic Personnel and Postgraduate Education Entrance Exam (ALES)
Ranked 22nd among 300,000 post-graduate students in Turkey *2019*

Turkish Prime Ministry, Scholarship
Monthly stipend during the B. Sc., awarded to only 100 students in Turkey *2014 – 2019*

Bilkent University, Comprehensive Scholarship
Full tuition waiver and stipend during the B. Sc. program *2014 – 2019*

Bilkent University, Graduate Research Conference
Scientific Research Award *2018*

Bilkent University, Graduation Awards
Research Excellence Award *2019*

Scientific and Technological Research Council of Turkey, Scholarship
Monthly stipend during the M. Sc. program *2019 – Present*

Bilkent University, Graduate Study Comprehensive Scholarship
Full tuition waiver and stipend during the M. Sc. program *2019 – Present*

Publications

- **Mahmut Yurt**, Salman Ul Hassan Dar, Aykut Erdem, Erkut Erdem, Kader Karlı Oğuz, Tolga Çukur, 2019, mustGAN: multi-stream Generative Adversarial Networks for MR Image Synthesis, under second-round revision in Medical Image Analysis, preprint available at https://arxiv.org/abs/1909.11504

- Salman Ul Hassan Dar, **Mahmut Yurt**, Muhammed Emrullah Ildız, Mohammad Shahdloo, Berk Tınaz, Tolga Çukur, 2020, Prior-Guided Image Reconstruction for Accelerated Multi-Contrast MRI via Generative Adversarial Networks, IEEE Journal of Selected Topics in Signal Processing, 1-1.

- Salman Ul Hassan Dar, **Mahmut Yurt**, Levent Karacan, Aykut Erdem, Erkut Erdem, Tolga Çukur, 2019, Image Synthesis in Multi-Contrast MRI with Conditional Generative Adversarial Networks, IEEE Transactions on Medical Imaging, 38, 2375-2388.

Conference Proceedings

- **Mahmut Yurt**, Tolga Çukur, 2020, Multi-Image Super Resolution in Multi-Contrast MRI, IEEE Signal Processing and Applications (SIU).
- **Mahmut Yurt**, Salman Ul Hassan Dar, Aykut Erdem, Erkut Erdem, Tolga Çukur, 2020, A Multi-Stream GAN Approach for Multi-Contrast MRI Synthesis, 28th Annual Meeting of International Society for Magnetic Resonance Imaging (ISMRM).
- Salman Ul Hassan Dar, **Mahmut Yurt**, Muzaffer Özbey, Tolga Çukur, 2020, Hybrid Deep Neural Network Architectures for Multi-Coil MR Image Reconstruction, 28th Annual Meeting of International Society for Magnetic Resonance Imaging (ISMRM).
- **Mahmut Yurt**, Salman Ul Hassan Dar, Aykut Erdem, Erkut Erdem, Tolga Çukur, 2020, Adaptive Fusion via Dual-Branch GAN for Multi-Conrast MRI Synthesis, IEEE 17th International Symposium on Biomedical Imaging (ISBI).
- Salman Ul Hassan Dar, **Mahmut Yurt**, Muzaffer Özbey, Tolga Çukur, 2020, Hybrid Deep Neural Networks for Parallel MR Image Reconstruction, IEEE 17th International Symposium on Biomedical Imaging (ISBI).
- Salman Ul Hassan Dar, **Mahmut Yurt**, Levent Karacan, Aykut Erdem, Erkut Erdem, Tolga Çukur, 2020, Journal Paper: Image Synthesis in Multi-Contrast MRI with Conditional Generative Adversarial Networks, IEEE 17th International Symposium on Biomedical Imaging (ISBI).
- Muzaffer Özbey, **Mahmut Yurt**, Salman Ul Hassan Dar, Tolga Çukur, 2020, Three-Dimensional MR Image Synthesis with Progressive Generative Adversarial Networks, IEEE 17th International Symposium on Biomedical Imaging (ISBI).
- Salman Ul Hassan Dar, **Mahmut Yurt**, Mohammad Shahdloo, Muhammed Emrullah Ildız, Tolga Çukur, 2019, Joint Recovery of Variably Accelerated Multi-Contrast MRI Acquisitions via Generative Adversarial Networks, 27th Annual Meeting of International Society for Magnetic Resonance Imaging (ISMRM).

Experience

Undergraduate Research Assistant August 2017 – June 2019
National Magnetic Resonance Research Center *Ankara, Turkey*

- Developed a conditional generative adversarial network architecture for medical image synthesis under the supervision of Prof. Tolga Çukur.

Graduate Research Assistant July 2019 – Present
National Magnetic Resonance Research Center *Ankara, Turkey*

- Developed supervised and unsupervised deep generative model architectures for robust, volumetric multiple contrast medical image synthesis, reconstruction and super resolution as well as for computer vision problems under the supervision of Prof. Tolga Çukur

Researcher August 2019 – Present
Scientific and Technological Research Council of Turkey *Ankara, Turkey*

- Worked in a research project on accelerated magnetic resonance imaging under the supervision of Prof. Tolga Çukur, supported by Research Support Programs Directorate in Turkey.

Teaching Assistant September 2018 – January 2019
Bilkent University, EEE321: Signal and Systems *Ankara, Turkey*

- Supervised and graded students during the lab hours of the Signals and Systems course.

Teaching Assistant September 2019 – June 2020
Bilkent University, EEE493 & EEE494: Industrial Design Project *Ankara, Turkey*

- Took part as an advisor for the industrial design projects offered to senior students. The advised projects included a deep-learning based recommender system for parameter initializations of Atomic Force Microscope and a 3D object detection system for autonomous vehicles via sensor fusion.

Teaching Assistant September 2020 – Present

Bilkent University, EEE443/543: Neural Networks *Ankara, Turkey*

- Prepared and graded assignments, proctored during examinations, and supervised students for the term project.

Reviewer September 2019 – Present

Signal, Image and Video Processing *Chicago, USA*

- Reviewed manuscripts through peer-review tracking system.

Technical Skills

Languages: Python, Matlab, C++, Java, VHDL, Verilog, System Verilog
Frameworks/Libraries: PyTorch, TensorFlow, Numpy, Matplotlib, OpenCV
Software Tools: LaTeX, Illustrator, Inkscape, Photoshop, Spyder, Git, Google Cloud Platform, FSL, AWR, Eagle, DICOM, Android Studio, LTSpice