Oğuzhan Fatih Kar

PERSONAL DETAILS

Mail oguzhan.kar@epfl.ch
Website https://ofkar.github.io/

Interests Computational imaging, inverse problems, deep learning, compressive sensing, optimization

EDUCATION

Ph.D. in Computer Science 2019-Present
Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland

M.S. in Electrical and Electronics Engineering (CGPA: 3.93/4.00) 2017-2019
Middle East Technical University (METU), Ankara, Turkey
Advisor: Figen S. Oktem
Thesis: Computational spectral imaging techniques using diffractive lenses and compressive sensing

B.S. in Electrical and Electronics Engineering (CGPA: 3.90/4.00) 2013-2017
Middle East Technical University (METU), Ankara, Turkey

WORK EXPERIENCE

Research Engineer 2017-2019
ASELSAN Research Center, Ankara, Turkey

- Developed and implemented novel reconstruction techniques for computational imaging.
- Built optical setups for computational imaging.

Research Intern 2016
ASELSAN Research Center, Ankara, Turkey

- Developed and implemented non-uniformity correction algorithms for infrared imaging.

Research Intern 2015
TUBITAK SAGE, Ankara, Turkey

- Implemented communication protocols between FPGA and ADC.

SKILLS

Languages Turkish (mother tongue)
English (very fluent, TOEFL score: 106/120)
French (beginner)
German (beginner)
Computer MATLAB, Python, TensorFlow, Caffe, C, C++, LabVIEW, LaTeX, Linux

AWARDS AND HONORS

TUBITAK (Scientific and Technical Research Council of Turkey): Full scholarship for M.S. studies
IEEE: Travel award for ICIP 2018
METU EEE Department: Dr. Bulent Kerim Altay award for 4.0/4.0 GPA in Fall 2015 semester
METU EEE Department: Best Poster Presentation award in GRAD STAR 2018 Departmental Poster Competition
8 times listed in Dean's High Honor Roll, Middle East Technical University, 2013-2017
Ranked 228th in National University Entrance Exam 1st stage among 2 million students
Ranked 159th in National University Entrance Exam 2nd stage among 2 million students

PUBLICATIONS

Conference Publications

1. O. F. Kar, A. Gungor, H. E. Guven, "Real-time compressive video reconstruction for spatial multiplexing cameras." To appear in IEEE Global Conference on Signal and Information Processing (GLOBALSIP). 2019.
2. O. F. Kar, A. Gungor, H. E. Guven, "Learning based regularization for spatial multiplexing cameras." To appear in IEEE Global Conference on Signal and Information Processing (GLOBALSIP). 2019.
3. A. Gungor, **O. F. Kar**, "A transform learning based deconvolution technique with super-resolution and microscanning applications." To appear in IEEE International Conference on Image Processing (ICIP). 2019.
4. O. F. Kar, F. S. Oktem, "Fast computational spectral imaging using photon sieves." OSA Imaging and Applied Optics Congress. 2019. (**Oral presentation**)
5. O. F. Kar, A. Gungor, H. E. Guven, "Optimal number of measurement analysis for coded compressive focal plane array imager." IEEE Signal Processing and Communications Applications Conference (SIU). 2019. (**Oral presentation**) (**National conference**)
6. O. F. Kar, A. Gungor, H. E. Guven, "Compressive focal plane array imager reconstruction using learning based regularization." IEEE Signal Processing and Communications Applications Conference (SIU). 2019. (**Oral presentation**) (**National conference**)
7. O. F. Kar, A. Gungor, S. Ilbey, C. B. Top, H. E. Guven, "A performance analysis on the optimal number of measurements for coded compressive imaging." IEEE Global Conference on Signal and Information Processing (GLOBALSIP). 2018. (**Oral presentation**)
8. A. Gungor, **O. F. Kar**, H. E. Guven, "A matrix-free reconstruction method for compressive focal plane array imaging." IEEE International Conference on Image Processing (ICIP). 2018. (**Poster presentation**)
9. O. F. Kar, U. Kamaci, F. C. Akyon, F. S. Oktem, "Compressive photon-sieve spectral imaging." OSA Imaging and Applied Optics Congress. 2018. (**Oral presentation**)
10. O. F. Kar, A. Gungor, S. Ilbey, H. E. Guven, "An efficient parallel algorithm for single-pixel and FPA imaging." SPIE Defense and Commercial Sensing Conference. 2018. (**Oral presentation**)
11. O. F. Kar, A. Gungor, H. E. Guven, "An adaptive relaxed alternating direction method of multipliers for compressive focal plane array imaging." IEEE Signal Processing and Communications Applications Conference (SIU). 2018. (**Oral presentation**) (**National conference**)
12. O. F. Kar, U. Kamaci, F. C. Akyon, F. S. Oktem, "Effect of different sparsity priors on compressive photon-sieve spectral imaging." IEEE Signal Processing and Communications Applications Conference (SIU). 2018. (**Oral presentation**) (**National conference**)

Journal Publications

1. O. F. Kar, F. S. Oktem, ”Compressive spectral imaging with diffractive lenses.” To appear in Optics Letters.

2. O. F. Kar, F. S. Oktem, ”High-resolution computational spectral imaging with photon sieves.” In preparation.

ACADEMIC ACTIVITIES

Journal Reviewer: Optics Express
Conference Reviewer: EUSIPCO 2019
Member: IEEE (2017-2018), SPIE (2017-2018).