

Oğuzhan Fatih Kar

PERSONAL DETAILS

Mail oguzhan.kar@epfl.ch
Website <https://ofkar.github.io/>
Interests computer vision, machine learning, computational imaging

EDUCATION

Ph.D. in Computer Science

Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland

Advisor: Amir Zamir

2019-Present

M.S. in Electrical and Electronics Engineering (CGPA: 3.93/4.00)

Middle East Technical University (METU), Ankara, Turkey

Advisor: Figen S. Oktem

Thesis: Computational spectral imaging techniques using diffractive lenses and compressive sensing

2017-2019

B.S. in Electrical and Electronics Engineering (CGPA: 3.90/4.00)

Middle East Technical University (METU), Ankara, Turkey

2013-2017

PROFESSIONAL EXPERIENCE

Research and Teaching Assistant

Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland

- Research on robust learning for visual perception.
- TA courses: Analysis I (Fall 2020), Analysis II (Spring 2020, 2021), Visual intelligence : machines and minds (Fall 2021).

2019-Present

Research Engineer

ASELSAN Research Center, Ankara, Turkey

- Research on novel reconstruction techniques for computational imaging.

2017-2019

Research Intern

ASELSAN Research Center, Ankara, Turkey

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

2016

Research Intern

TUBITAK SAGE, Ankara, Turkey

- Implemented communication protocols between FPGA and ADC.

2015

AWARDS AND HONORS

EPFL Computer and Communication Sciences Doctoral Program: EDIC Fellowship for the first year of Ph.D. studies (52k CHF), 2019-2020

TUBITAK (Scientific and Technical Research Council of Turkey): Full scholarship for M.S. studies, 2017-2019

METU Graduate School of Natural and Applied Sciences: Graduate courses performance award, 2019

METU Electrical and Electronics Engineering Department: Best Poster Presentation award in GRAD STAR Departmental Poster Competition, 2018

IEEE: Travel award for International Conference on Image Processing (ICIP), 2018

METU Electrical and Electronics Engineering Department: Dr. Bulent Kerim Altay award for 4.0/4.0 GPA in Fall semester, 2015

8 times (all semesters) listed in Dean's High Honor Roll, METU, 2013-2017

Ranked 228th in National University Entrance Exam 1st stage among 2 million students, 2012

Ranked 159th in National University Entrance Exam 2nd stage among 2 million students, 2012

PUBLICATIONS

Conference Publications (* denotes equal contribution)

1. T. Yeo*, **O. F. Kar***, A. Zamir, "Robustness via cross-domain ensembles." ICCV, 2021. (**Oral presentation, top 3%**)
2. A. Zamir*, A. Sax*, T. Yeo, **O. F. Kar**, N. Cheerla, R. Suri, Z. Cao, J. Malik, L. Guibas, "Robust learning through cross-task consistency." Arxiv, 2020. CVPR, 2020. (**Oral presentation, best paper award nomination**)
3. **O. F. Kar**, A. Gungor, H. E. Guven, "Real-time compressive video reconstruction for spatial multiplexing cameras." IEEE Global Conference on Signal and Information Processing (GLOBALSIP), 2019. (**Oral presentation**)
4. **O. F. Kar**, A. Gungor, H. E. Guven, "Learning based regularization for spatial multiplexing cameras." IEEE Global Conference on Signal and Information Processing (GLOBALSIP), 2019.
5. A. Gungor*, **O. F. Kar***, "A transform learning based deconvolution technique with super-resolution and microscanning applications." IEEE International Conference on Image Processing (ICIP), 2019.
6. **O. F. Kar**, F. S. Oktem, "Fast computational spectral imaging using photon sieves." OSA Imaging and Applied Optics Congress, 2019. (**Oral presentation**)
7. **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**)
8. **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**)
9. **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**)
10. 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.
11. **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**)
12. **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**)

13. 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**)

14. 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. F. S. Oktem, **O. F. Kar**, C. D. Bezek, F. Kamalabadi , “High-resolution multi-spectral imaging with diffractive lenses and learned reconstruction.” IEEE Transactions on Computational Imaging, 2021.

2. **O. F. Kar**, F. S. Oktem, “Compressive spectral imaging with diffractive lenses.” Optics Letters, 2019.

OTHER ACADEMIC ACTIVITIES

Academic Demo:

- **O. F. Kar**, A. Sax, T. Yeo, A. Zamir, “Robust learning through cross-task consistency.” ECCV, 2020.

Journal Reviewer:

- Optics Express (2019)
- Applied Optics (2019)

Conference Reviewer:

- ECCV 2020
- EUSIPCO 2019

ELLIS Evaluator:

- 2021 Ph.D. applications (pre-screening)

SKILLS

<i>Languages</i>	Turkish (mother tongue) English (very fluent, TOEFL score: 106/120) French (A2)
<i>Computer</i>	Python, PyTorch, MATLAB, C, C++, LaTeX, Linux, Bash, Javascript