

Oğuzhan Fatih Kar

PERSONAL DETAILS

<i>Mail</i>	oguzhan.kar@epfl.ch
<i>Website</i>	https://ofkar.github.io/
<i>Interests</i>	robustness, 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 robustness of machine learning models.
- TA courses: Analysis I (Fall 2020, 2022), Analysis II (Spring 2020, 2021), Analysis-A (Spring 2022), 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**, O. Beker, Z. Sodagar, A. Zamir, "Fast adaptation of neural networks using test-time feedback." In review, 2022.
2. **O. F. Kar**, T. Yeo, A. Atanov, A. Zamir, "3D common corruptions and data augmentation." CVPR, 2022. (**Oral presentation, top 4%**). Project page: <https://3dcommoncorruptions.epfl.ch/>
3. **O. F. Kar**, T. Yeo, A. Zamir, "3D common corruptions for object recognition." ICML Shift Happens Workshop, 2022. (**Invited**). Project page: <https://3dcommoncorruptions.epfl.ch/>
4. T. Yeo*, **O. F. Kar***, A. Zamir, "Robustness via cross-domain ensembles." ICCV, 2021. (**Oral presentation, top 3%**). Project page: <https://crossdomain-ensembles.epfl.ch/>
5. 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**). Project page: <https://consistency.epfl.ch/>
6. **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**)
7. **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.
8. 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.
9. **O. F. Kar**, F. S. Oktem, "Fast computational spectral imaging using photon sieves." OSA Imaging and Applied Optics Congress, 2019. (**Oral presentation**)
10. **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**)
11. **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**)
12. **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**)
13. 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.

14. 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**)

15. 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**)

16. 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**)

17. 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
- Applied Optics

Conference Reviewer:

- ICLR
- CVPR
- ECCV
- EUSIPCO

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