

# Oğuzhan Fatih Kar

## PERSONAL DETAILS

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

## EDUCATION

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### 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

2017-2019

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

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

*Middle East Technical University (METU), Ankara, Turkey*

2013-2017

## PROFESSIONAL EXPERIENCE

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### 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

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**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

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### Conference Publications (\* denotes equal contribution)

1. **O. F. Kar**, T. Yeo, A. Atanov A. Zamir, "3D common corruptions and data augmentation." CVPR, 2022. (**Oral presentation**). Project page: <https://3dcommoncorruptions.epfl.ch/>
2. 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/>
3. 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/>
4. **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**)
5. **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.
6. 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.
7. **O. F. Kar**, F. S. Oktem, "Fast computational spectral imaging using photon sieves." OSA Imaging and Applied Optics Congress, 2019. (**Oral presentation**)
8. **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**)
9. **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**)
10. **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**)
11. 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.
12. **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**)
13. **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**)

**14. 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**)

**15. 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

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### 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

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<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