Cagatay Isil
Resume

UCLA Electrical and Computer Engineering Department
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Education

University of California, Los Angeles, USA

Ph.D. in Electrical and Computer Engineering — Sep 2019 – Present

- Supervisor: Prof. Aydogan Ozcan

Middle East Technical University, Ankara, Turkey

M.S. in Electrical and Electronics Engineering — Sep 2017 – Jul 2019

- Development of reliable & robust algorithms for phase retrieval
- Supervisor: Asst. Prof. Figen S. Oktem

B.S. in Physics (Double Major) — Sep 2015 – Jun 2018

B.S. in Electrical and Electronics Engineering — Sep 2012 – Jun 2017

- Development of a phase-space approach for the analysis of coherent imaging systems
- Supervisor: Asst. Prof. Figen S. Oktem

Adana Anatolian High School, Adana, Turkey

Skills

Languages

Turkish (Native), English (Fluent), German (Intermediate)

Programming

MATLAB, Python, C/C++, Zemax, LabVIEW, CAD, LaTeX

Professional Experience

Graduate Student Researcher

University of California, Los Angeles, USA — Sep 2019 – Present

- Supervisor: Prof. Aydogan Ozcan

Research Engineer

ASELSAN Research Center, Ankara, Turkey — Feb 2017 – Aug 2019

- Development of a deep learning-based algorithm for the resolution enhancement of microscopy images
- Development of a modified variational autoencoder by utilizing triplet loss for representation learning
- Supervisor: Dr. Aykut Koc

Journal Papers

1. **Işıl, Ç.**, Yorulmaz, M., Solmaz, B., Turhan, A. B., Yurdakul, C., Ünlü, S., Özbay, E., & Koç, A. (2018). **Resolution enhancement of wide-field interferometric microscopy by coupled deep autoencoders**. *Applied Optics, 57*(10), 2545–2552.
2. **Işıl, Ç.**, Oktem, F. S. & Koç, A. (2019) **Deep Iterative Reconstruction for Phase Retrieval**. *Applied Optics, 58*, 5422–5431.
3. **Işıl, Ç.** & Oktem, F. S. **A phase-space approach for the analysis of coherent imaging systems**. *(to be submitted)*

Conference Papers

1. **Işıl, Ç.**, & Oktem, F. S. (2018, June). **A phase-space approach to diffraction-limited resolution**. In *Adaptive Optics: Analysis, Methods & Systems* (pp. JM4A-32). Optical Society of America.
2. **Işıl, Ç.**, Solmaz, B., & Koç, A. (2018, May). **Variational autoencoders with triplet loss for representation learning**. In *2018 26th Signal Processing and Communications Applications Conference (SIU)* (pp. 1-4). IEEE.
3. Yorulmaz, M., **Işıl, Ç.**, Seymour, E., Yurdakul, C., Solmaz, B., Koç, A. & Ünlü, M. S. (2017, October). **Single-particle imaging for biosensor applications**. In *Emerging Imaging and Sensing Technologies for Security and Defence II* (Vol. 10438, p. 104380I). International Society for Optics and Photonics.
4. **Işıl, Ç.**, Oktem, F. S. & Koç, A. **Deep Learning-Based Hybrid Approach for Phase Retrieval**. *(sessioned for oral presentation at OSA Imaging and Applied Optics Congress 2019)*

Achievements, Certificates & Honors

- TUBITAK (The Scientific and Technological Research Council of Turkey) Scholarship for the M.S. degree
- TUBITAK Scholarship for the double major
- Dean's High Honor List, Middle East Technical University (All semesters, except for one)
- LabVIEW Certified Associate Developer
- Honor Certificate in High School
- Information & Communication Technologies Certificate by Ericsson

Research Interests

Computational imaging, machine learning, signal processing, optics

Volunteer Activities

Social Responsibility Project Group Associate Coordinator
IEEE METU, Ankara — May 2013 – May 2014

References

Asst. Prof. Figen S. Oktem
- ◇ Department of Electrical and Electronics Engineering, Middle East Technical University, Ankara, Turkey
- ⋆ E-mail: figeno@metu.edu.tr, phone: +90-312-210-2342

Dr. Aykut Koc
- ◇ Artificial Intelligence & Information Technologies Research Programs Department, ASELSAN Research Center, Ankara, Turkey
- ⋆ E-mail: aykutkoc@aselsan.com.tr, phone: +90-312-592-6277

Prof. Cagatay Candan
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Asst. Prof. Elif Vural
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