

Gencer Sümbül

PHD CANDIDATE

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Research Interests: Computer vision and machine learning with special interest in remote sensing image analysis, deep learning and large-scale image understanding

Education

Technische Universität Berlin

PH.D. IN COMPUTER SCIENCE

- Advisor: Begüm Demir (IEEE Senior Member)

Berlin, Germany

Aug. 2018 - Present

Bilkent University

M.S. IN COMPUTER SCIENCE

- Advisors: R. Gökberk Cinbiş, Selim Aksoy (IEEE Senior Member)
- Thesis Title: Fine-Grained Object Recognition in Remote Sensing Imagery
- Courses Taken: Deep Learning, Image Analysis, Pattern Recognition, Mathematical Programming, Information Retrieval Systems, Research Methods and Academic Publication Ethics, Academic Practices
- GPA: 3.68/4.00

Ankara, Turkey

Sep. 2016 - Jun. 2018

Bogazici University

M.S. IN COMPUTER SCIENCE

- Advisor: Ali Taylan Cemgil
- Courses Taken: Numerical Linear Algebra & Its Application, Bayesian Statistics & Machine Learning, Monte Carlo Methods, Pattern Recognition
- GPA: 3.78/4.00
- Master Program Transfer

Istanbul, Turkey

Sep. 2015 - Jun. 2016

Bilkent University

B.S. IN COMPUTER ENGINEERING

- GPA: 2.89/4.00

Ankara, Turkey

Sep. 2012 - Jun. 2015

Bilkent University

B.S. IN INDUSTRIAL ENGINEERING

- GPA: 3.78/4.00
- Department Transfer

Ankara, Turkey

Sep. 2009 - Jun. 2012

Research Consultancy and Work Experience

Remote Sensing Image Analysis Group

MEMBER

- Research on remote sensing image analysis

Berlin, Germany

Aug. 2018 - Present

RETINA Vision and Learning Group

MEMBER

- Research on remote sensing image analysis

Ankara, Turkey

Sep. 2016 - Jun. 2018

AlgoSis

RESEARCHER

- Research and development for the financial trading platform which is decision support system for thematic investments

Istanbul, Turkey

Sep. 2015 - Jun. 2016

Perceptual Intelligence Laboratory, Statistical Inference Group

MEMBER

- Research on non-negative matrix factorization algorithms

Istanbul, Turkey

Sep. 2015 - Jun. 2016

Etgi Group

INTERN

- Development of a AngularJS based tool to create and reproduce the products of the company

Ankara, Turkey

Aug. 2014 - Sept. 2014

ASELSAN

INTERN

- Development of a java based desktop application to encode or decode AIS messages, a simulation application for RECONSURVE project

Ankara, Turkey

Aug. 2013 - Sept. 2013

Research Grants

ERC (European Research Council)

RESEARCHER

Berlin, Germany

Aug. 2018 - Present

- “BigEarth - Accurate and Scalable Processing of Big Data in Earth Observation”, grant no: BigEarth-759764

TUBITAK (Scientific and Technological Research Council of Turkey)

RESEARCHER

Ankara, Turkey

Oct. 2016 - Jun. 2017

- “Computer Vision and Machine Learning Techniques for Automated Classification of Whole-Slide Breast Histopathology Images”, grant no: 113E602

Professional Activities

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|------|--|----------------|
| 2018 | Reviewer , IEEE Geoscience and Remote Sensing Letters (GRSL) | - |
| 2018 | Reviewer , IEEE European Conf. on Computer Vision (ECCV) | - |
| 2018 | Translator , Translation of “I. Goodfellow, Y. Bengio and A. Courville, <i>Deep Learning</i> ” into Turkish | Ankara, Turkey |
| 2017 | Co-organizer , Bilkent Summer School on Artificial Intelligence | Ankara, Turkey |

Publications

- [1] G. Sumbul, R. G. Cinbis, and S. Aksoy. Multisource region attention network for fine-grained object recognition in remote sensing imagery. *arXiv preprint arXiv:1901.06403*, 2019.
- [2] G. Sumbul, R. G. Cinbis, and S. Aksoy. Fine-grained object recognition and zero-shot learning in remote sensing imagery. *IEEE Transactions on Geoscience and Remote Sensing*, 56(2):770–779, Feb 2018.
- [3] G. Sumbul, R. G. Cinbis, and S. Aksoy. Fine-grained object recognition and zero-shot learning in multispectral imagery. In *2018 26th Signal Processing and Communications Applications Conference (SIU)*, May 2018.

Talks & Seminars

Big Data from Space Conference

PAPER PRESENTATION

Munich, Germany

Feb. 2019

- “A New Large-Scale Sentinel-2 Benchmark Archive and a Three-Branch CNN for Classification of Sentinel-2 Images”

CS590 Seminar

PRESENTATION FOR THE THESIS STUDY

Ankara, Turkey

Nov. 2017

- “Fine-Grained Object Recognition and Zero-Shot Learning in Remote Sensing Imagery”

Teaching Experience

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|------|---|-----------------|
| 2018 | Teaching Assistant , Machine Learning for Remote Sensing Data Analysis (Technische Universität Berlin) | Berlin, Germany |
| 2018 | Teaching Assistant , CS101: Algorithms and Programming I (Bilkent University) | Ankara, Turkey |
| 2017 | Teaching Assistant , CS484: Image Analysis (Bilkent University) | Ankara, Turkey |
| 2017 | Teaching Assistant , CS415: Software Product Line Engineering (Bilkent University) | Ankara, Turkey |
| 2016 | Teaching Assistant , CS101: Algorithms and Programming I (Bilkent University) | Ankara, Turkey |

Skills

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|--------------------|---|
| Programming | Python, C/C++, JAVA, SQL, LaTeX, Django |
| Tools | TensorFlow, Keras, MATLAB, OpenCV, QGIS, GDAL |
| Languages | Turkish (native), English (fluent), German (beginner) |

Honors, Awards & Certificates

2017	Research/teaching assistanship and full tuition award , By Bilkent University	<i>Ankara, Turkey</i>
2015	Usability award with iGarson application , CSFair	<i>Ankara, Turkey</i>
2013	Honour Student , By Bilkent University	<i>Ankara, Turkey</i>
2012	Honour Student , By Bilkent University	<i>Ankara, Turkey</i>
2012	High Honour Student , By Bilkent University	<i>Ankara, Turkey</i>
2011	High Honour Student , By Bilkent University	<i>Ankara, Turkey</i>
2010	High Honour Student , By Bilkent University	<i>Ankara, Turkey</i>
2009	Full scholarship upon success in the National University Entrance Exam , By Bilkent University	<i>Ankara, Turkey</i>
2010	Pardus Introducing and Development Days Certificate , By Informatics Association of Turkey	<i>Ankara, Turkey</i>
2017	Certificate of Bozkırda Yapay Öğrenme Yaz Okulu (BYÖYO) , By Hacettepe University	<i>Ankara, Turkey</i>
2011	Certificate of Aware of Career and Self-improvement , By Bilkent University Career Center	<i>Ankara, Turkey</i>