

## EDUCATION

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### Norwegian University of Science and Technology

*MSc in Applied Computer Science*

*Specialization in Computer Vision*

Gjøvik, Norway

2016 – 2018

### Middle East Technical University

*BSc in Electrical and Electronics Engineering*

Ankara, Turkey

2012 – 2016

## RESEARCH INTERESTS

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Machine Learning

Computer Vision

Numerical Optimization

## PUBLICATIONS

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### Real-time Desmoking of Laparoscopy Videos Using Deep Learning

S. Bolkar, C. Wang, F. Cheikh, S. Yildirim *Deep Smoke Removal From Minimally Invasive Surgery Videos*, in Proceedings of the IEEE International Conference on Image Processing (ICIP), 2018.

### Segmentation and 3d Reconstruction of Confocal Microscopy Stacks

S. Bolkar, *Soft Segmentation of Viral Labeled Neurons*, MSc Thesis, KU Leuven (Neuro-electronics Flanders) and Norwegian University of Science and Technology, 2018.

### Biomedical Spectral Imaging Literature Review

S. Bolkar & O. Ozcelik, *Bio-Spectral Imaging*, Research Report, 2015

## HONORS & AWARDS

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*Neuro-electronics Research Flanders MSc Thesis Scholarship*

Spring 2018

*EU Mundus Master Joint Degree Full Scholarship*

2016 - 2018

*Best Research Poster Award in METU Undergraduate Research Fair*

May 2015

*Erasmus Summer Internship Grant*

Summer 2014

*Scholarship of METU Alumni Association*

2014 - 2016

*Scholarship of Prime Ministry of Turkey*

2010 - 2015

*Ranked at the top 0.5% in National University Entrance Examination*

2010

## EXPERIENCE

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### Delft University of Technology

Delft, Netherlands

*PhD Researcher*

*September 2018 -*

**Point Cloud Registration.** Long-term goal of the project is to increase resolution of single molecule localization microscopy sets by particle averaging

### Neuro-electronics Research Flanders, KU Leuven & IMEC

Leuven, Belgium

*MSc Thesis Researcher*

*January - July 2018*

**Soft Segmentation of Viral Labeled Neurons.** Retinal ganglion cells have complex structures and dendritic arborization is crucial for their identification. The project aims to separate and reconstruct occluded individual neurons from viral labelled confocal microscopy image stacks

Advisor: Karl Farrow

### Gestalt-ReVision, KU Leuven

Leuven, Belgium

*Visiting Scholar*

*July - August 2017*

**Image Memorability.** The project seeks to understand memorability of images from perceptual grouping point of view by using deep neural networks

Advisor: Johan Wagemans

**Mikro-Tasarm Electronics Inc.***IC Engineering Intern*

Ankara, Turkey

*August - September 2015*

**Digital Circuit Design.** The project is mainly on developing FPGA prototypes of a digital oscilloscope and a tunable clock management circuit by using Verilog

**KocSistem Inc.***Computer Networking Intern*

Ankara, Turkey

*June - August 2015*

**Network Design.** The project aims to design and simulate network architecture of a company with multiple branches on hardware and software

**Technical University of Denmark***Neuroengineering Intern*

Lyngby, Denmark

*June - September 2014*

**Neurorehabilitation.** It is a summer research project that targets development of feature extraction algorithms from EEG signals to be used in a brain computer interface for rehabilitation of ADHD

Advisor: Sadasivan Puthusserypady

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**SKILLS**

**Language:** Turkish (native), English (IELTS-7.5/9), Bokmal (ele.)

**Programming:** Matlab (adv.), Python (adv.), C/C++ (int.), R (int.), Verilog (ele.), Assembly-68HC11, LaTeX

**Libraries:** Caffe, Keras, OpenCV, LIBSVM/LIBLINEAR, Numpy, Scipy, Scikit-Learn, Scikit-Image

**Computer Programs:** Cadence Virtuoso, Agilent VEE, Altera Quartus, Xilinx ISE, LTspice, Office Suites, Adobe Photoshop and Illustrator

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**ACTIVITIES & HOBBIES**

Columnist in the Morsk Magazine

Amateur Artist (Drawing)

Volunteer for children with leukemia, autism, Down syndrome and CP at the Lodos (2012-2016)

Professional Basketball Player (2008-2016)