

## Asst. Prof. Ertuğrul BAYRAKTAR

### Personal Information

**Fax Phone:** [+90 212 383 2975](tel:+902123832975)

**Email:** [eb@yildiz.edu.tr](mailto:eb@yildiz.edu.tr)

**Web:** <https://avesis.yildiz.edu.tr/eb>

### International Researcher IDs

ScholarID: LM\_VCuoAAAAJ

ORCID: 0000-0002-7387-4783

Publons / Web Of Science ResearcherID: A-4705-2015

ScopusID: 57194083975

Yoksis Researcher ID: 29163

### Education Information

Post Doctorate, Italian Institute of Technology, The Pattern Analysis and Computer Vision (PAVIS) , Visual Geometry and Modelling (VGM), Italy 2019 - 2020

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Mechatronics Engineering, Turkey 2013 - 2018

Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Mechatronics Engineering, Turkey 2011 - 2013

Postgraduate, Kadir Has University, Institute Of Science, Finance Engineering, Turkey 2009 - 2011

Undergraduate, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering, Turkey 2005 - 2009

### Research Areas

Computer Vision, Computer Learning, Pattern Recognition and Image Processing, Neural Networks, System Dynamics and Control, Robotics, Mechatronics, Modeling and Simulation of Dynamic Systems

### Academic Titles / Tasks

Assistant Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechatronics Engineering, 2021 - Continues

### Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Improving efficiency and cost of ordering algorithms in pathfinding using shell layers**  
Allus A., Diab A. M., BAYRAKTAR E.  
Expert Systems with Applications, vol.238, 2024 (SCI-Expanded)
- II. **Visual detection and tracking of lane violations for heavy vehicles**  
Mutlukaya I., Can Karakurt R., Cetinkaya S., BAYRAKTAR E.  
Neural Computing and Applications, 2024 (SCI-Expanded)
- III. **Conditional-pooling for improved data transmission**  
BAYRAKTAR E., Yigit C. B.  
Pattern Recognition, vol.145, 2024 (SCI-Expanded)

- IV. **Traffic congestion-aware graph-based vehicle rerouting framework from aerial imagery**  
BAYRAKTAR E., Korkmaz B. N., Erarslan A. U., Celebi N.  
Engineering Applications of Artificial Intelligence, vol.119, 2023 (SCI-Expanded)
- V. **Improved object reidentification via more efficient embeddings**  
BAYRAKTAR E.  
Turkish Journal of Electrical Engineering and Computer Sciences, vol.31, no.2, pp.282-294, 2023 (SCI-Expanded)
- VI. **Fast re-OBJ: real-time object re-identification in rigid scenes**  
Bayraktar E., Wang Y., Delbue A.  
MACHINE VISION AND APPLICATIONS, vol.33, no.6, 2022 (SCI-Expanded)
- VII. **Similarity based person re-identification for multi-object tracking using deep Siamese network**  
Suljagic H., Bayraktar E., Çelebi N.  
NEURAL COMPUTING & APPLICATIONS, vol.34, no.20, pp.18171-18182, 2022 (SCI-Expanded)
- VIII. **External Force/Torque Estimation With Only Position Sensors for Antagonistic VSAs**  
Yigit C. B., BAYRAKTAR E., Kaya O., Boyraz P.  
IEEE TRANSACTIONS ON ROBOTICS, vol.37, no.2, pp.675-682, 2021 (SCI-Expanded)
- IX. **A low-cost UAV framework towards ornamental plant detection and counting in the wild**  
Bayraktar E., Basarkan M. E., Celebi N.  
ISPRS JOURNAL OF PHOTOGRAMMETRY AND REMOTE SENSING, vol.167, pp.1-11, 2020 (SCI-Expanded)
- X. **Object manipulation with a variable-stiffness robotic mechanism using deep neural networks for visual semantics and load estimation**  
Bayraktar E., Yigit C. B., Boyraz P.  
NEURAL COMPUTING & APPLICATIONS, vol.32, no.13, pp.9029-9045, 2020 (SCI-Expanded)
- XI. **A hybrid image dataset toward bridging the gap between real and simulation environments for robotics: Annotated desktop objects real and synthetic images dataset: ADORESet**  
Bayraktar E., Yigit C. B., Boyraz P.  
MACHINE VISION AND APPLICATIONS, vol.30, no.1, pp.23-40, 2019 (SCI-Expanded)
- XII. **Low-cost variable stiffness joint design using translational variable radius pulleys**  
Yigit C. B., Bayraktar E., Boyraz P.  
MECHANISM AND MACHINE THEORY, vol.130, pp.203-219, 2018 (SCI-Expanded)
- XIII. **Analysis of feature detector and descriptor combinations with a localization experiment for various performance metrics**  
Bayraktar E., Boyraz P.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.25, no.3, pp.2444-2454, 2017 (SCI-Expanded)

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **Efficient and Reliable Surface Defect Detection in Industrial Products Using Morphology-Based Techniques**  
Bayraktar E.  
12th International Symposium on Intelligent Manufacturing and Service Systems, IMSS 2023, İstanbul, Turkey, 26 - 28 May 2023, pp.81-94
- II. **Meyve Bahçesinde Panorama Görüntülerden Derin Öğrenme Tabanlı Elma Tespiti Deep Learning Based Apple Detection from Panorama Images in the Orchard**  
PAZARLI E., BAYRAKTAR E.  
ELECO 2022, ELEKTRİK-ELEKTRONİK ve BİYOMEDİKAL MÜHENDİSLİĞİ KONFERANSI, Bursa, Turkey, 24 November 2022
- III. **Combined GANs and Classical Methods for Surface Defect Detection**  
Bayraktar E., Tosun B., Altintas B., Celebi N.  
2022 30th Signal Processing and Communications Applications Conference (SIU), Karabük, Turkey, 15 - 18 May

2022, pp.1-4

**IV. Visual Recognition of Objects with CNN and Object Manipulation**

BAYRAKTAR E., YİĞİT C. B., BOYRAZ P.

2017 International Conference on Mechatronics Systems and Control Engineering (ICMSCE 2017), Kayseri, Turkey, 2 - 04 February 2017

**V. Tailoring the AI for robotics: Fine-tuning predefined deep convolutional neural network model for a narrower class of objects**

BAYRAKTAR E., Yigit C. B., Boyraz P.

2017 International Conference on Mechatronics Systems and Control Engineering, ICMSCE 2017, Kayseri, Turkey, 2 - 04 February 2017, pp.10-14

**VI. Robotic Arm Control By Fine-Tuned Convolutional Neural Network Model**

Bayraktar E., Yigit C. B., Boyraz P.

25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017

## **Metrics**

Publication: 20

Citation (WoS): 105

Citation (Scopus): 130

H-Index (WoS): 7

H-Index (Scopus): 7

## **Non Academic Experience**

Canovate Endüstri Elektronik ve Mühendislik A.Ş.