

## Asst. Prof. ÖZGÜR ERKENT

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: Q-6423-2019

ScopusID: 16549364800

Yoksis Researcher ID: 145679

### Biography

Ozgur Erkent is an assistant professor at [Department of Artificial Intelligence](#) at [Hacettepe University](#). His research interests include autonomous vehicles, robotics, object pose estimation, attentive vision, place recognition, semantic segmentation, object recognition, scene classification, machine learning, human-robot interaction, localization, SLAM, mechanical and electrical design of robots. He is also an external collaborator at [Team Chroma](#) at INRIA. He was working as the Starting Research Position at [Team Chroma](#) working with Christian Laugier and Christian Wolf. He was a Post-doc at [Intelligent and Interactive Systems](#) at [University of Innsbruck](#) under the supervision of Prof. Dr. Justus Piater from 2013 until 2017 August. He received his PhD in 2013 from [Department of Electrical and Electronics Engineering](#) at [Boğaziçi University](#), MSc in 2004 from [Cognitive Science Department](#) and BS from [Mechanical Engineering](#) in 2001, both from [Middle East Technical University](#).

### Education Information

Doctorate, Bogazici University, Institute Of Science, Elektrik-Elektronik Mühendisliği, Turkey 2007 - 2013

Postgraduate, Middle East Technical University, Graduate School Of Informatics, Cognitive Science, Turkey 2001 - 2004

Undergraduate, Middle East Technical University, Faculty Of Engineering, Department Of Mechanical Engineering, Turkey 1997 - 2001

### Foreign Languages

German, B1 Intermediate

English, C2 Mastery

Russian, A1 Beginner

French, A2 Elementary

### Dissertations

Doctorate, Scene Exploration and Recognition with an Attentive Robot, Bogazici University, Institute Of Science, Elektrik-Elektronik Mühendisliği, 2013

Postgraduate, An Eye Movement Analysis Of Chess Players Across Levels Of Expertise: An Electrooculography Study, Middle East Technical University, Graduate School Of Informatics, Cognitive Science, 2004

## Research Areas

Robotics and Mechatronics Systems, Image and Video Processing, Pattern Recognition and Analysis, Computer Learning, Human Computer Interaction, Pattern Recognition and Image Processing, Neural Networks, Robotics, Mechatronics

## Academic Titles / Tasks

Assistant Professor, Hacettepe University, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 2021 - Continues  
Other, INRIA Grenoble-Alpes, Chroma, Chroma, 2017 - 2021  
Other, Universitaet Innsbruck, Enformatik ve Matematik, Bilgisayar Muhendisliđi, 2013 - 2017

## Courses

Introduction to Robotics, Undergraduate, 2021 - 2022  
Robotics, Doctorate, 2022 - 2023, 2021 - 2022  
Computer Organization, Undergraduate, 2021 - 2022  
Logic Design, Undergraduate, 2022 - 2023, 2021 - 2022

## Advising Theses

Erkent Ö., YOLO-Based Panoptic Segmentation, Postgraduate, M.Alejandro(Student), 2020

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

- I. **Semantic Segmentation With Unsupervised Domain Adaptation Under Varying Weather Conditions for Autonomous Vehicles**  
ERKENT Ö., Laugier C.  
IEEE ROBOTICS AND AUTOMATION LETTERS, vol.5, no.2, pp.3580-3587, 2020 (SCI-Expanded)
- II. **Learning Semantics of Gestural Instructions for Human-Robot Collaboration**  
Shukla D., ERKENT Ö., Piater J.  
FRONTIERS IN NEUROROBOTICS, vol.12, 2018 (SCI-Expanded)
- III. **Hierarchically self-organizing visual placememory**  
ERKENT Ö., Karaoguz H., Bozma H. I.  
ADVANCED ROBOTICS, vol.31, no.16, pp.865-879, 2017 (SCI-Expanded)
- IV. **RGB-D based place representation in topological maps**  
Karaoguz H., ERKENT Ö., Bozma H. I.  
MACHINE VISION AND APPLICATIONS, vol.25, no.8, pp.1913-1927, 2014 (SCI-Expanded)
- V. **Bubble space and place representation in topological maps**  
ERKENT Ö., Bozma H. I.  
INTERNATIONAL JOURNAL OF ROBOTICS RESEARCH, vol.32, no.6, pp.672-689, 2013 (SCI-Expanded)
- VI. **Artificial potential functions based camera movements and visual behaviors in attentive robots**  
ERKENT Ö., Bozma H. I.  
AUTONOMOUS ROBOTS, vol.32, no.1, pp.15-34, 2012 (SCI-Expanded)
- VII. **Attentive mobile robot visual maps via bubble memory**  
Cayci S., ERKENT Ö., Bozma H. I.  
PERCEPTION, vol.38, pp.47-48, 2009 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Multi-Modal Multi-Task (3MT) Road Segmentation**  
Milli E., ERKENT Ö., Yılmaz A. E.  
IEEE Robotics and Automation Letters, vol.8, no.9, pp.5408-5415, 2023 (Scopus)
- II. **End-to-End Learning of Semantic Grid Estimation Deep Neural Network with Occupancy Grids**  
ERKENT Ö., Wolf C., Laugier C.  
UNMANNED SYSTEMS, vol.7, no.3, pp.171-181, 2019 (ESCI)

## Refereed Congress / Symposium Publications in Proceedings

- I. **LAPNet-FPN: Multi-Scale LiDAR-Aided Projective Transform Network for Real Time Semantic Grid Prediction**  
Diaz-Zapata M., Sierra-Gonzalez D., ERKENT Ö., Laugier C., Dibangoye J.  
2023 IEEE International Conference on Robotics and Automation, ICRA 2023, London, England, 29 May - 02 June 2023, vol.2023-May, pp.712-718
- II. **MultiLane: Lane Intention Prediction and Sensible Lane-Oriented Trajectory Forecasting on Centerline Graphs**  
Sierra-Gonzalez D., Paigwar A., Erkent O., Laugier C.  
25th IEEE International Conference on Intelligent Transportation Systems, ITSC 2022, Macau, China, 8 - 12 October 2022, vol.2022-October, pp.3657-3664
- III. **GndNet: Fast ground plane estimation and point cloud segmentation for autonomous vehicles**  
Paigwar A., Erkent Ö., Sierra-Gonzalez D., Laugier C.  
2020 IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS 2020, Nevada, United States Of America, 24 October 2020 - 24 January 2021, pp.2150-2156
- IV. **Instance Segmentation with Unsupervised Adaptation to Different Domains for Autonomous Vehicles**  
Diaz-Zapata M., Erkent Ö., Laugier C.  
16th IEEE International Conference on Control, Automation, Robotics and Vision (ICARCV), Shenzhen, China, 13 - 15 December 2020, pp.421-427
- V. **Recognize Moving Objects Around an Autonomous Vehicle Considering a Deep-learning Detector Model and Dynamic Bayesian Occupancy**  
Hernandez A. E. G., Erkent Ö., Laugier C.  
16th IEEE International Conference on Control, Automation, Robotics and Vision (ICARCV), Shenzhen, China, 13 - 15 December 2020, pp.414-420
- VI. **Leveraging Dynamic Occupancy Grids for 3D Object Detection in Point Clouds**  
Sierra-Gonzalez D., Paigwar A., Erkent Ö., Dibangoye J., Laugier C.  
16th IEEE International Conference on Control, Automation, Robotics and Vision (ICARCV), Shenzhen, China, 13 - 15 December 2020, pp.1188-1193
- VII. **Attentional PointNet for 3D-Object Detection in Point Clouds**  
Paigwar A., Erkent Ö., Wolf C., Laugier C.  
32nd IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), California, United States Of America, 16 - 20 June 2019, pp.1297-1306
- VIII. **Semantic Grid Estimation with Occupancy Grids and Semantic Segmentation Networks**  
ERKENT Ö., Wolf C., Laugier C.  
15th International Conference on Control, Automation, Robotics and Vision (ICARCV), Singapore, Singapore, 18 - 21 November 2018, pp.1051-1056
- IX. **Modeling Driver Behavior From Demonstrations in Dynamic Environments Using Spatiotemporal Lattices**  
Gonzalez D. S., ERKENT Ö., Romero-Cano V., Dibangoye J., Laugier C.  
IEEE International Conference on Robotics and Automation (ICRA), Brisbane, Australia, 21 - 25 May 2018,

pp.3384-3390

- X. **Semantic Grid Estimation with a Hybrid Bayesian and Deep Neural Network Approach**  
ERKENT Ö., Wolf C., Laugier C., Gonzalez D. S., Romero Cano V.  
25th IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Madrid, Spain, 1 - 05 October 2018, pp.888-895
- XI. **Visual Task Outcome Verification Using Deep Learning**  
ERKENT Ö., Shukla D., Piater J.  
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) / Workshop on Machine Learning Methods for High-Level Cognitive Capabilities in Robotics, Vancouver, Canada, 24 - 28 September 2017, pp.4821-4827
- XII. **Supervised learning of gesture-action associations for human-robot collaboration**  
Shukla D., ERKENT Ö., Piater J.  
12th IEEE International Conference on Automatic Face and Gesture Recognition (FG), Washington, Kiribati, 30 May - 03 June 2017, pp.778-783
- XIII. **Proactive, Incremental Learning of Gesture-Action Associations For Human-Robot Collaboration**  
Shukla D., ERKENT Ö., Piater J.  
26th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN), Lisbon, Portugal, 28 August - 01 September 2017, pp.346-353
- XIV. **A Multi-View Hand Gesture RGB-D Dataset for Human-Robot Interaction Scenarios**  
Shukla D., ERKENT Ö., Piater J.  
25th IEEE International Symposium on Robot and Human Interactive Communication (IEEE RO-MAN), New York, United States Of America, 26 - 31 August 2016, pp.1084-1091
- XV. **Integration of Probabilistic Pose Estimates from Multiple Views**  
ERKENT Ö., Shukla D., Piater J.  
14th European Conference on Computer Vision (ECCV), Amsterdam, Netherlands, 8 - 16 October 2016, vol.9911, pp.154-170
- XVI. **Probabilistic detection of pointing directions for human-robot interaction**  
Shukla D., ERKENT Ö., Piater J.  
International Conference on Digital Image Computing: Techniques and Applications, Adelaide, Australia, 23 - 25 November 2015, pp.601-608
- XVII. **The Effects of Social Gaze in Human-Robot Collaborative Assembly**  
Fischer K., Jensen L. C., Kirstein F., Stabinger S., ERKENT Ö., Shukla D., Piater J.  
7th International Conference on Social Robotics (ICSR), Paris, France, 26 - 30 October 2015, vol.9388, pp.204-213
- XVIII. **General Object Tip Detection and Pose Estimation for Robot Manipulation**  
Shukla D., ERKENT Ö., Piater J.  
10th International Conference on Computer Vision Systems (ICVS), Copenhagen, Denmark, 6 - 09 July 2015, vol.9163, pp.364-374
- XIX. **Long-Term Topological Place Learning**  
ERKENT Ö., Bozma H. I.  
IEEE International Conference on Robotics and Automation (ICRA), Washington, United States Of America, 26 - 30 May 2015, pp.5462-5467
- XX. **Place Representation in Topological Maps Based on Bubble Space**  
ERKENT Ö., Bozma I.  
IEEE International Conference on Robotics and Automation (ICRA), Minnesota, United States Of America, 14 - 18 May 2012, pp.3497-3502
- XXI. **Color in Attention Control**  
ERKENT Ö., Bozma H. I.  
IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009, pp.467-470
- XXII. **Saccades and fixating using artificial potential functions**  
Ilhan B. D., ERKENT Ö., Bozma H. I.

## **Metrics**

Publication: 31

Citation (WoS): 127

Citation (Scopus): 207

H-Index (WoS): 6

H-Index (Scopus): 9