

## **Asst. Prof. EMRAH BENLİ**

### **Personal Information**

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**Address:** Karadeniz Teknik Üniversitesi, Kanuni Kampüsü, Elektrik-Elektronik Mühendisliği Bölümü

### **International Researcher IDs**

ScholarID: 8VOMzSsAAAAJ

ORCID: 0000-0001-8579-0539

Publons / Web Of Science ResearcherID: AAC-5089-2019

ScopusID: 57194856620

Yoksis Researcher ID: 302265

### **Education Information**

Post Doctorate, U.S. Army Combat Capabilities Development Command (DEVCOM) Army Research Laboratory, Adelphi Laboratory Center, Computational and Information Sciences Directorate (CISD), United States Of America 2017 - 2018

Doctorate, Virginia Commonwealth University, College of Engineering, Electrical and Computer Engineering, United States Of America 2013 - 2017

Postgraduate, Clemson University, College of Engineering, Electrical Engineering, United States Of America 2011 - 2013

Undergraduate, Kocaeli University, Mühendislik Fakültesi, Elektronik Ve Haberleşme Mühendisliği, Turkey 2004 - 2009

### **Foreign Languages**

English, C2 Mastery

### **Dissertations**

Doctorate, OMNI-DIRECTIONAL INFRARED 3D RECONSTRUCTION AND TRACKING OF HUMAN TARGETS, Virginia Commonwealth University, College of Engineering, Electrical and Computer Engineering, 2017

### **Research Areas**

Smart Factors, Field and Service Robots, Computer Vision, Human and Robot Interaction, Humanoid Robots, Mechatronic Systems, Route and Motion Planning, Image and Video Processing, Pattern Recognition and Analysis, 3D Impressions, Pattern Recognition and Image Processing

### **Academic Titles / Tasks**

Assistant Professor, Karadeniz Technical University, Mühendislik Fakültesi, Elektrik-Elektronik, 2020 - Continues

## Academic and Administrative Experience

Deputy Head of Department, Karadeniz Technical University, Mühendislik Fakültesi, Elektrik-Elektronik, 2022 - Continues

## Courses

### Doctorate

Robotic Vision and Control, Doctorate, 2024 - 2025, 2023 - 2024, 2022 - 2023, 2021 - 2022

Mechatronics, Doctorate, 2024 - 2025, 2023 - 2024, 2022 - 2023, 2021 - 2022

### Undergraduate

Mechatronics, Undergraduate, 2024 - 2025

Measurements in Electrical Engineering, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023, 2021 - 2022

Graduation Project, Undergraduate, 2024 - 2025, 2022 - 2023

Measurements in Electrical Engineering, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023, 2021 - 2022

Mechatronics, Undergraduate, 2024 - 2025

Professional Training, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023

Introduction To Computers, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022

Engineering Design, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021

Introduction to Electrical and Electronics Engineering, Undergraduate, 2023 - 2024, 2022 - 2023

Introduction To Computers (in Turkish), Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022

Electrical and Electronics, Undergraduate, 2021 - 2022, 2020 - 2021

Engineering Design, Undergraduate, 2022 - 2023

Electronic Device Techniques, Undergraduate, 2020 - 2021

Electronic Device Techniques, Undergraduate, 2020 - 2021

Graduation Project, Undergraduate, 2021 - 2022

Mühendislik Tasarımı, Undergraduate, 2020 - 2021

Control Systems - II, Undergraduate, 2019 - 2020

Bitirme Projesi, Undergraduate, 2020 - 2021

Elektrik Devreleri Laboratuvarı - II, Undergraduate, 2019 - 2020

Control Systems - I, Undergraduate, 2019 - 2020

Image Processing, Undergraduate, 2019 - 2020

Bitirme Çalışması, Undergraduate, 2019 - 2020

## Supervised Theses

Benli E., MULTIPLE TARGET LOCALIZATION WITH LIDAR-CAMERA SENSOR FUSION, Postgraduate, G.SENA(Student), 2024

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

- I. **Multiple Objects Localization With Camera-LIDAR Sensor Fusion**  
Hocaoğlu G. S., Benli E.  
IEEE SENSORS JOURNAL, vol.25, no.7, pp.11892-11905, 2025 (SCI-Expanded)
- II. **DeepFuseNet of Omnidirectional Far-Infrared and Visual Stream for Vegetation Detection**  
Stone D. L., Ravi S., Benli E., Motai Y.  
IEEE Transactions on Geoscience and Remote Sensing, vol.59, pp.9057-9070, 2021 (SCI-Expanded)
- III. **Robust Detection of Infrared Maritime Targets for Autonomous Navigation**  
Wang B., Benli E., Motai Y., Dong L., Xu W.

- IEEE TRANSACTIONS ON INTELLIGENT VEHICLES, vol.5, no.4, pp.635-648, 2020 (SCI-Expanded)
- IV. **Visual Perception for Multiple Human-Robot Interaction From Motion Behavior**  
BENLİ E., Motai Y., Rogers J.  
IEEE SYSTEMS JOURNAL, vol.14, no.2, pp.2937-2948, 2020 (SCI-Expanded)
- V. **Thermal Multisensor Fusion for Collaborative Robotics**  
Benli E., Spidalieri R. L., Motai Y.  
IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, vol.15, no.7, pp.3784-3795, 2019 (SCI-Expanded)
- VI. **Human Behavior-Based Target Tracking With an Omni-Directional Thermal Camera**  
Benli E., Motai Y., Rogers J.  
IEEE TRANSACTIONS ON COGNITIVE AND DEVELOPMENTAL SYSTEMS, vol.11, pp.36-50, 2019 (SCI-Expanded)
- VII. **Dynamic 3-D Reconstruction of Human Targets via an Omni-Directional Thermal Sensor**  
Benli E., Rahlf J., Motai Y.  
IEEE SENSORS JOURNAL, vol.18, no.17, pp.7209-7221, 2018 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Altı Serbestlik Dereceli Robot Manipülâtörün Ters Kinematik Analizi İçin Gko Ve Çdde Algoritmalarının Karşılaştırmalı Analizi**  
Hocaoğlu G. S., Çavli N., Benli E.  
Dokuz Eylül Üniversitesi Mühendislik Fakültesi Fen ve Mühendislik Dergisi, vol.26, no.78, pp.449-457, 2024 (Peer-Reviewed Journal)

## Papers Published in Refereed Scientific Meetings

- I. **SEMI-SUPERVISED SEGMENTATION FOR AUTONOMOUS VEHICLE OF OFF-ROADS**  
Zengin S., Hocaoğlu G. S., Benli E.  
5th International Conference on Engineering and Applied Natural Sciences ICEANS 2024, Konya, Turkey, 25 - 26 August 2024, pp.792-799
- II. **Motion Prediction Classification for Wall-Following Robot Navigation**  
ÇAVLI N., Koban N., BENLİ E., ATASOY A.  
8th International Scientific Conference "Telecommunications, Informatics, Energy and Management" – TIEM 2023, Bandırma, Turkey, 1 - 03 December 2023
- III. **Autonomous Rechargeable Occupational Safety Robot**  
Sağlam A., Eskiş Ş., Hız Ş., Benli E., Hocaoğlu G. S.  
2023 Innovations in Intelligent Systems and Applications Conference (ASYU), Sivas, Turkey, 11 - 13 October 2023, pp.1-6
- IV. **7 DOF Robotic Arm Inverse Kinematic Analysis with Cuckoo and Whale Algorithms**  
Koban N., Çavli N., Doğan H., Benli E.  
2023 Innovations in Intelligent Systems and Applications Conference (ASYU), Sivas, Turkey, 11 - 13 October 2023, pp.1-6
- V. **Mapping and Navigation on Rough Surface with LIDAR and IMU**  
Adanur F., Kabataş M., Benli E.  
2022 Innovations in Intelligent Systems and Applications Conference (ASYU), Antalya, Turkey, 7 - 09 September 2022, pp.1-5
- VI. **Neural Network-Based Serum Flow Rate Control**  
Çetin G., Benli E., Şenyiğit Ş.  
Innovations in Intelligent Systems and Applications Conference, Elazığ, Turkey, 6 - 08 October 2021

## Supported Projects

- ÜZÜM A., ÇUVALCI H., ATASOY A., OKUMUŞ H. İ., TÜRK K., TURHAL M., YAZGAN A., BENLİ E., Project Supported by Higher Education Institutions, Optoelektronik Uygulamalar için Etkili Ara Katmanların Geliştirilmesi ve Üretilmesi, 2025 - Continues
- BENLİ E., HOCAOĞLU E., BEYAZLI K., Project Supported by Higher Education Institutions, IoT Tabanlı Akıllı Saat ile Akıllı Ofis Sistemi, 2025 - Continues
- BENLİ E., KARAKAŞ E., KILIÇ H. R., GÜDÜKÇAM İ. K., Project Supported by Higher Education Institutions, Akıllı Topraksız Tarım Serası, 2024 - Continues
- BENLİ E., SARICA B. E., SEVGİ R., Project Supported by Higher Education Institutions, Engel Arkasındaki İnsanı Tespit Eden Robotu, 2024 - Continues
- ATASOY A., SEVİM Y., HACIOĞLU G., ÖZKOP E., BENLİ E., TURHAL M., YAZGAN A., DANAYİYEN Y., ÖZTÜRK M., Project Supported by Higher Education Institutions, Yenilikçi Laboratuvar Yaklaşımlarının Elektrik Elektronik Mühendisliği Eğitimine Uygulanması, 2022 - 2025
- BENLİ E., ÜLKER S. R., ÖZER M. C., ÖZKÖK Ö. S., Project Supported by Higher Education Institutions, Otonom kamufle lazer işaretleme sistemi, 2024 - 2024
- Benli E., Özkösemem A., TUBITAK Project, Autonomous Arterial Injection Robot, 2023 - 2024
- BENLİ E., HOCAOĞLU G. S., Project Supported by Higher Education Institutions, LIDAR-Kamera Sensör Füzyonu İle Çoklu Hedef Konumlandırılması, 2023 - 2024
- BENLİ E., SAĞLAM A., HIZ Ş., ESKİL Ş., Project Supported by Higher Education Institutions, Otonom şarj edilebilen iş güvenliği robotu, 2023 - 2023
- BENLİ E., ÇOLAK N., YILDIZ S., AKÇA G., MERAL E., Project Supported by Higher Education Institutions, 2D Lidar ile 3D Duvar ve Zemin Tespiti, 2023 - 2023
- BENLİ E., BAYRAM F., DEMİRCİ H. C., İLERİ E. S., Project Supported by Higher Education Institutions, AGV-AIV SİSTEMLERİNDE GELİŞTİRİLMİŞ YÜK ALGILAMALI OTONOM YÜK TAŞIMA ARACI, 2023 - 2023
- Benli E., Bayram F., TUBITAK Project, AGV-AIV sistemlerinde geliştirilmiş engel algılamalı otonom yük aracı , 2022 - 2023

## Peer Reviews in Scientific Publications

- IEEE TRANSACTIONS ON AUTOMATION SCIENCE & ENGINEERING, SCI Journal, March 2025
- IEEE TRANSACTIONS ON AUTOMATION SCIENCE & ENGINEERING, SCI Journal, March 2025
- IEEE TRANSACTIONS ON AUTOMATION SCIENCE & ENGINEERING, SCI Journal, February 2025
- IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, SCI Journal, December 2024
- IEEE TRANSACTIONS ON AUTOMATION SCIENCE & ENGINEERING, SCI Journal, November 2024
- IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, SCI Journal, August 2024
- IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, SCI Journal, July 2024
- IEEE TRANSACTIONS ON HUMAN-MACHINE SYSTEMS, SCI Journal, June 2024
- IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, SCI Journal, June 2024
- IEEE Transactions on Intelligent Vehicles, SCI Journal, May 2024
- IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, SCI Journal, March 2024
- IEEE Transactions on Intelligent Vehicles, SCI Journal, September 2023
- Innovations in Intelligent Systems and Applications 2023, Conference Paper (Full Text), August 2023
- JOURNAL OF ROBOTICS, Journal Indexed in ESCI, July 2023
- IEEE SYSTEMS JOURNAL, SCI Journal, June 2023
- IEEE TRANSACTIONS ON AUTOMATION SCIENCE & ENGINEERING, SCI Journal, May 2023
- IEEE SYSTEMS JOURNAL, SCI Journal, April 2023
- IEEE SYSTEMS JOURNAL, SCI Journal, April 2023
- IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II: EXPRESS BRIEFS, SCI Journal, March 2023
- IEEE SYSTEMS JOURNAL, SCI Journal, February 2023
- IEEE TRANSACTIONS ON AUTOMATION SCIENCE & ENGINEERING, SCI Journal, February 2023

IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II: EXPRESS BRIEFS, SCI Journal, January 2023  
IEEE SYSTEMS JOURNAL, SCI Journal, January 2023  
IEEE SENSORS JOURNAL, SCI Journal, January 2023  
IEEE SYSTEMS JOURNAL, SCI Journal, January 2023  
IEEE TRANSACTIONS ON AUTOMATION SCIENCE & ENGINEERING, SCI Journal, December 2022  
IEEE SYSTEMS JOURNAL, SCI Journal, December 2022  
IEEE SENSORS JOURNAL, SCI Journal, December 2022  
IEEE SENSORS JOURNAL, SCI Journal, November 2022  
IEEE SYSTEMS JOURNAL, SCI Journal, November 2022  
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II: EXPRESS BRIEFS, SCI Journal, October 2022  
IEEE TRANSACTIONS ON AUTOMATION SCIENCE & ENGINEERING, SCI Journal, October 2022  
IEEE Transactions on Intelligent Vehicles, SCI Journal, October 2022  
IEEE Transactions on Intelligent Vehicles, SCI Journal, September 2022  
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II-EXPRESS BRIEFS, SCI Journal, August 2022  
IEEE TRANSACTIONS ON AUTOMATION SCIENCE & ENGINEERING, SCI Journal, August 2022  
IEEE SYSTEMS JOURNAL, SCI Journal, August 2022  
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II-EXPRESS BRIEFS, SCI Journal, July 2022  
IEEE TRANSACTIONS ON AUTOMATION SCIENCE AND ENGINEERING, SCI Journal, May 2022  
IEEE SYSTEMS JOURNAL, SCI Journal, May 2022  
IEEE SYSTEMS JOURNAL, SCI Journal, April 2022  
IEEE SYSTEMS JOURNAL, SCI Journal, March 2022  
IEEE SYSTEMS JOURNAL, SCI Journal, February 2022  
IEEE TRANSACTIONS ON AUTOMATION SCIENCE AND ENGINEERING, SCI Journal, February 2022  
IEEE TRANSACTIONS ON AUTOMATION SCIENCE AND ENGINEERING, SCI Journal, January 2022  
IEEE SYSTEMS JOURNAL, SCI Journal, January 2022  
IEEE SYSTEMS JOURNAL, SCI Journal, December 2021  
IEEE SYSTEMS JOURNAL, SCI Journal, November 2021  
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II-EXPRESS BRIEFS, SCI Journal, October 2021  
IEEE SYSTEMS JOURNAL, SCI Journal, September 2021  
IEEE TRANSACTIONS ON AUTOMATION SCIENCE AND ENGINEERING, SCI Journal, September 2021  
IEEE SYSTEMS JOURNAL, SCI Journal, August 2021  
ASYU 2021, Conference Paper (Full Text), August 2021  
IEEE SYSTEMS JOURNAL, SCI Journal, August 2021  
IEEE SYSTEMS JOURNAL, SCI Journal, July 2021  
IEEE International Conference On Intelligent Transportation Systems (ITSC), Conference Paper (Full Text), June 2021  
IEEE International Conference On Intelligent Transportation Systems (ITSC), Conference Paper (Full Text), June 2021  
IEEE International Conference on Intelligent Transportation Systems (ITSC), Conference Paper (Full Text), June 2021  
International Journal of Computational Science and Engineering (IJCSE), Other Indexed Journal, May 2021  
IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS, SCI Journal, May 2021  
IEEE/RSJ INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS AND SYSTEMS (IROS), Conference Paper (Full Text), April 2021  
IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS, SCI Journal, April 2021  
IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS, SCI Journal, March 2021  
International Journal of Computational Science and Engineering (IJCSE), Other Indexed Journal, February 2021  
IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS, SCI Journal, January 2021  
IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS, SCI Journal, November 2020  
IEEE SYSTEMS JOURNAL, SCI Journal, November 2020  
IEEE ROBOTICS & AUTOMATION LETTERS (ICRA), Conference Paper (Full Text), November 2020  
IEEE SYSTEMS JOURNAL, SCI Journal, August 2020  
IEEE TRANSACTIONS ON AUTOMATION SCIENCE AND ENGINEERING, SCI Journal, May 2019  
IEEE ROBOTICS & AUTOMATION MAGAZINE, SCI Journal, October 2018

IEEE TRANSACTIONS ON AUTOMATION SCIENCE AND ENGINEERING, SCI Journal, September 2018  
CRC Press , Textbook Published by Renowned Publishing Houses, August 2018

### **Scientific Project Refereeing**

TUBITAK Project, 1501 - Industry R & D Projects Support Program, October 2024

### **Metrics**

Publication: 15  
Citation (WoS): 63  
Citation (Scopus): 79  
H-Index (WoS): 5  
H-Index (Scopus): 5

### **Scholarships**

1416 (YLSY) yurt dışı lisansüstü öğrenim bursu, Ministry of Education, 2010 - 2017