

## Assoc. Prof. Sırma YAVUZ

### Personal Information

**Fax Phone:** [+90 212 383 5732](tel:+902123835732)

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

**Web:** <http://www.yildiz.edu.tr/~smyavuz/>

**Address:** Yıldız Teknik Üniversitesi Elektrik Elektronik Fakültesi Bilgisayar Mühendisliği Bölümü D Blok Davutpaşa Mah. Davutpaşa Caddesi 34220 Esenler- İstanbul TÜRKİYE

### Education Information

Doctorate, Yıldız Technical University, Faculty of Electrical & Electronics, Computer Engineering, Turkey 2005 - 2006

Post Graduate, Yıldız Technical University, Faculty of Electrical & Electronics, Computer Engineering, Turkey 1992 - 1994

Under Graduate, Yıldız Technical University, Faculty Of Electrical & Electronics, Electrical Engineering Department, Turkey 1986 - 1990

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Performans artırmaya yönelik paralel mimarilerin yapay sinir ağları yaklaşımı ile değerlendirilmesi, Yıldız Technical University, Faculty of Electrical & Electronics, Computer Engineering, 2006

Post Graduate, Üç serbestlik dereceli bir robot kolu tasarımı, Yıldız Technical University, Faculty of Electrical & Electronics, Computer Engineering, 1995

### Research Areas

Computer Sciences, Artificial Intelligence, Computer Learning and Pattern Recognition, Neural Networks, Mechanical Engineering, Machine Theory and Dynamics, Robotics, Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Yıldız Technical University, Bilgisayar Mühendisliği Bölümü , 2015 - Continues

Assistant Professor, Yıldız Teknik Üniversitesi, Elektrik Elektronik Fakültesi , Bilgisayar Mühendisliği Bölümü , 2006 - 2015

Research Assistant, Yıldız Technical University, Faculty of Electrical & Electronics, Computer Engineering, 1992 - 2006

### Professional Experience

Vice Dean, Yıldız Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2020 - Continues

Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi, Yıldız Technical University, Faculty Of Electrical & Electronics,

Computer Engineering, 2020 - Continues

Geçiş Komisyonu, Yıldız Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2011 - 2019

Farabi Coordinator, Yıldız Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2009 - 2018

Member of ADEK Commission, Yıldız Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2009 - 2011

Deputy Head of Department, Yıldız Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2009 - 2011

## Courses

Derin Öğrenme ve Yapay Sinir Ağları , Doctorate, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021

## Advising Theses

Yavuz S., A new image cipher using color space transform and Lorenz map, Post Graduate, F.YEŞİM(Student), 2019

Yavuz S., İnsansız hava aracı tasarımı ve kontrolü Design and control of unmanned aerial vehicle, Post Graduate, A.SEZGİN(Student), 2017

Yavuz S., SMS spam filtering on mobile communication, Post Graduate, I.HUSSAIN(Student), 2017

YAVUZ S., Authentication for online voting using physical biometric Biyometrik veriler kullanarak çevrimlçi oylama doğrulama, Post Graduate, S.ADNAN(Student), 2016

Yavuz S., Pasif radar uygulamaları, Post Graduate, A.EĞİTMEN(Student), 2015

Yavuz S., MOBİL ROBOT SÜRÜLERİ İÇİN DİNAMİK YÖNLENDİRME ALGORİTMALARI, Post Graduate, K.MAHMOODI(Student), 2014

Yavuz S., ARAMA KURTARMA AMAÇLI DİFERANSİYEL SÜRÜŞLÜ TEKERLEKLİ ROBOT TASARIMI VE GERÇEKLENMESİ, Post Graduate, F.Çakmak(Student), 2014

Yavuz S., Kaos Tabanlı Simetrik Şifreleme Sistemlerinin Tasarım ve Analizi, Doctorate, F.Özkaynak(Student), 2013

Yavuz S., Gezgin robotlarla eş zamanlı konum belirleme ve haritalama, Post Graduate, A.HABİBOV(Student), 2011

Yavuz S., Robot takımı ile eş zamanlı konum belirleme ve haritalama, Post Graduate, O.Özışık(Student), 2010

Yavuz S., Çoklu robot simülasyonu ve kumanda ortamı, Post Graduate, E.Deniz(Student), 2009

Yavuz S., Eş zamanlı konum belirleme ve haritalamaya yönelik akıllı algoritmaların geliştirilmesi, Post Graduate, Z.Kurt(Student), 2007

## Jury Memberships

Post Graduate, Post Graduate, Yıldız Teknik Üniversitesi, July, 2019

## Designed Lessons

Yavuz S., Derin Öğrenme ve Yapay Sinir Ağları , Doctorate, 2015 - 2016

Yavuz S., Amasyalı M. F. , Robot Teknolojisine Giriş, Under Graduate, 2015 - 2016

Yavuz S., Sistem Simülasyonu, Doctorate, 2009 - 2010

Yavuz S., Mühendislik Matematiği, Under Graduate, 2008 - 2009

Yavuz S., Olasılıksal Robotik, Post Graduate, 2007 - 2008

Yavuz S., Ayrık Olay Simülasyonu, Under Graduate, 2006 - 2007

## Research Infrastructure Information

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Image Visual Sensor Used in Health-Care Navigation in Indoor Scenes Using Deep Reinforcement Learning (DRL) and Control Sensor Robot for Patients Data Health Information**  
Seaman W. K. , YAVUZ S.  
JOURNAL OF MEDICAL IMAGING AND HEALTH INFORMATICS, vol.11, no.1, pp.104-113, 2021 (Journal Indexed in SCI)
- II. **Social navigation framework for assistive robots in human inhabited unknown environments**  
Kıvrak H., Çakmak F., Köse H., Yavuz S.  
Engineering Science and Technology, an International Journal, 2020 (Journal Indexed in SCI Expanded)
- III. **Indoor mobile robot navigation using deep convolutional neural network**  
Sleaman W. K. , Yavuz S.  
Journal of Intelligent and Fuzzy Systems, vol.39, pp.5475-5486, 2020 (Journal Indexed in SCI)
- IV. **More scalable solution for multi-robot-multi-target assignment problem**  
Marangoz S., Amasyalı M. F. , Uslu E., Çakmak F., Altuntaş N., Yavuz S.  
ROBOTICS AND AUTONOMOUS SYSTEMS, vol.113, pp.174-185, 2019 (Journal Indexed in SCI)
- V. **An architecture for multi-robot localization and mapping in the Gazebo/Robot Operating System simulation environment**  
Uslu E., Çakmak F., Altuntaş N., Marangoz S., Amasyalı M. F. , Yavuz S.  
SIMULATION-TRANSACTIONS OF THE SOCIETY FOR MODELING AND SIMULATION INTERNATIONAL, vol.93, pp.771-780, 2017 (Journal Indexed in SCI)
- VI. **R-SLAM: Resilient localization and mapping in challenging environments**  
Balcılar M., Yavuz S., Amasyalı M. F. , Uslu E., Çakmak F.  
ROBOTICS AND AUTONOMOUS SYSTEMS, vol.87, pp.66-80, 2017 (Journal Indexed in SCI)
- VII. **SIMULTANEOUS LOCALIZATION AND MAPPING WITH LIMITED SENSING USING EXTENDED KALMAN FILTER AND HOUGH TRANSFORM**  
Özışık O., Yavuz S.  
TEHNICKI VJESNIK-TECHNICAL GAZETTE, vol.23, pp.1731-1738, 2016 (Journal Indexed in SCI)
- VIII. **Analysis and improvement of a novel image fusion encryption algorithm based on DNA sequence operation and hyper-chaotic system**  
Ozkaynak F., Yavuz S.  
NONLINEAR DYNAMICS, vol.78, pp.1311-1320, 2014 (Journal Indexed in SCI)
- IX. **Designing chaotic S-boxes based on time-delay chaotic system**  
Ozkaynak F., Yavuz S.  
NONLINEAR DYNAMICS, vol.74, pp.551-557, 2013 (Journal Indexed in SCI)
- X. **Security problems for a pseudorandom sequence generator based on the Chen chaotic system**  
Ozkaynak F., Yavuz S.  
COMPUTER PHYSICS COMMUNICATIONS, vol.184, pp.2178-2181, 2013 (Journal Indexed in SCI)
- XI. **Cryptanalysis of a novel image encryption scheme based on improved hyperchaotic sequences**  
Ozkaynak F., Ozer A. B. , Yavuz S.  
OPTICS COMMUNICATIONS, vol.285, pp.4946-4948, 2012 (Journal Indexed in SCI)
- XII. **A neural network based methodology for performance evaluation of parallel systems**  
Yavuz S.  
AI 2005: ADVANCES IN ARTIFICIAL INTELLIGENCE, vol.3809, pp.297-307, 2005 (Journal Indexed in SCI)

## Articles Published in Other Journals

- I. **Autonomous Mobile Robot Navigation in Structured Rough Terrain**  
Yaşar A., Uslu E., Çakmak F., Altuntaş N., Amasyalı M. F. , Yavuz S.  
Akıllı Sistemler ve Uygulamaları Dergisi, vol.1, no.1, pp.67-74, 2018 (Other Refereed National Journals)
- II. **Autonomous Navigation Algorithm for RoboCup RRL Maneuvering 2 Field**  
Dilaver M. B. , Çakmak F., Uslu E., Altuntaş N., Amasyalı M. F. , Yavuz S.  
Journal of Intelligent Systems with Applications, vol.1, no.2, pp.213-216, 2018 (Other Refereed National Journals)
- III. **Color Based Object Tracking For Unmanned Aerial Vehicles**  
Sezgin A., Yavuz S.  
International Journal of Electronics, Mechanical and Mechatronics Engineering, vol.5, no.1, pp.881-890, 2015  
(Refereed Journals of Other Institutions)
- IV. **Pre-Mapping System with Single Laser Sensor Based on Gmapping Algorithm**  
İlhan H. O. , Yavuz S., Esenkanova J.  
International Journal of Electrical Energy, vol.1, pp.97-101, 2013 (Refereed Journals of Other Institutions)
- V. **Cryptanalysis of Bigdeli algorithm using Çokal and Solak attack**  
Özkaynak F., Özer A. B. , Yavuz S.  
International Journal of Information Security Science, vol.1, no.3, pp.79-81, 2012 (Refereed Journals of Other Institutions)
- VI. **Robot mapping and map optimization using genetic algorithms and artificial neural networks**  
Cabar I., YAVUZ S., Erol O.  
WSEAS Transactions on Computers, vol.7, no.7, pp.1061-1070, 2008 (Refereed Journals of Other Institutions)
- VII. **Performance prediction of a parallel Monte Carlo application: A neural network approach**  
YAVUZ S.  
WSEAS Transactions on Circuits and Systems, vol.4, no.5, pp.486-489, 2005 (Refereed Journals of Other Institutions)

## Books & Book Chapters

- I. Yavuz S., Allahviranloo T., Aritürk M.  
in: , Snehashish Chakraverty, Editor, John Wiley & Sons, West Sussex, UK , New-Jersey, pp.391-412, 2020

## Refereed Congress / Symposium Publications in Proceedings

- I. **3D Mapping and Simultaneous Navigation for Multi Micro Aerial Vehicles in Indoor Environments**  
Dilaver M. B. , Çakmak F., Uslu E., Amasyalı M. F. , Yavuz S.  
28th Signal Processing and Communications Applications Conference (SİU), Gaziantep, Turkey, 5 - 07 October 2020, pp.1-4
- II. **Üç Boyutlu Doğal Seyrüsefer**  
Kaya Ö. F. , Yılmaz K., Uslu E., Çakmak F., Amasyalı M. F. , Yavuz S.  
28th Signal Processing and Communications Applications Conference (SİU), Gaziantep, Turkey, 5 - 07 October 2020
- III. **Gps Yasak Alanlarda İnsansız Hava Aracı Lokalizasyonuna Dair Yaklaşımlar**  
YAVUZ S.  
2020 28th Signal Processing and Communications Applications Conference (SIU), İstanbul, Turkey, 05 October 2020
- IV. **A multilevel mapping based pedestrian model for social robot navigation tasks in unknown human environments**  
KIVRAK H., ÇAKMAK F., KÖSE H., YAVUZ S.  
2020 International Conference on INnovations in Intelligent SysTems and Applications (INISTA), İstanbul, Turkey, 24 - 26 August 2020

- V. **Physiological Data-Based Evaluation of a Social Robot Navigation System**  
KIVRAK H., ULUER P., KÖSE H., Gümüşlü E., EROL BARKANA D., ÇAKMAK F., YAVUZ S.  
2020 29th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN), Nepal, Italy, 31 August - 04 September 2020, pp.994-999
- VI. **Otonom Efektif Alan Tarayıcı Robot Tasarımı**  
Köroğlu U., İslamoğlu U., Uslu E., Çakmak F., Altuntaş N., Amasyalı M. F. , Yavuz S.  
Akıllı Sistemlerde Yenilikler ve Uygulamaları, İzmir, Turkey, 31 October - 02 November 2019, pp.1-4
- VII. **Design of an Autonomous Effective Area Scanning Robot Otonom Efektif Alan Tarayıcı Robot Tasarımı**  
Koroglu U., Islamoglu U., Uslu E., Çakmak F., Altuntas N., Fatih Amasyali M., Yavuz S.  
2019 Innovations in Intelligent Systems and Applications Conference, ASYU 2019, İzmir, Turkey, 31 October - 02 November 2019
- VIII. **Holonomik Robot ile Dar Alanlarda Gezinim (Holonomic Robot Navigation in Narrow Spaces)**  
BAYGÜL F., USLU E., ÇAKMAK F., ALTUNTAŞ N., AMASYALI M. F. , YAVUZ S.  
5. Türkiye Robotbilim Konferansı (ToRK 2019), İstanbul, Turkey, 26 - 28 June 2019, pp.16-21
- IX. **Holonomic Robot Navigation in Narrow Spaces**  
Baygöl F., Uslu E., Çakmak F., Altuntaş N., Amasyalı M. F. , Yavuz S.  
Türkiye Robotbilim Konferansı 2019, ToRK2019, İstanbul, Turkey, 26 - 28 June 2019, pp.16-21
- X. **Socially Aware Robot Navigation Using the Collision Prediction Based Pedestrian Model**  
KIVRAK H., ÇAKMAK F., KÖSE H., YAVUZ S.  
Workshop on Robotic Co-workers 4.0: Human Safety and Comfort in Human-Robot Interactive Social Environments 2018 IEEE/RSJ International Conference on Intelligent Robots and Systems, Madrid, Spain, 1 - 05 October 2018
- XI. **RoboCup RRL Manevra 2 Alanı için Otonom Gezinim Algoritması**  
DİLAVER M. B. , ÇAKMAK F., USLU E., ALTUNTAŞ N., AMASYALI M. F. , YAVUZ S.  
Akıllı Sistemlerde Yenilikler ve Uygulamaları Konferansı, Antalya, Turkey, 5 - 07 October 2017, pp.71
- XII. **Tasarlanmış Engibeli Ortamda Otonom Mobil Robot Gezinimi**  
YAŞAR A., USLU E., ÇAKMAK F., ALTUNTAŞ N., AMASYALI M. F. , YAVUZ S.  
Akıllı Sistemlerde Yenilikler ve Uygulamaları Konferansı, Antalya, Turkey, 5 - 07 October 2017, pp.37
- XIII. **Comparison of 3-Dimensional SLAM systems: RTAB-Map vs. Kintinuous**  
Altuntaş N., Uslu E., Çakmak F., Amasyalı M. F. , Yavuz S.  
2nd International Conference on Computer Science and Engineering, UBMK 2017, Antalya, Turkey, 5 - 08 October 2017, pp.99-103
- XIV. **Android application for simultaneously control of multiple land robots which have different drive strategy**  
Gökçen B., Baygöl F., ÇAKMAK F., USLU E., AMASYALI M. F. , YAVUZ S.  
2nd International Conference on Computer Science and Engineering, UBMK 2017, Antalya, Turkey, 5 - 08 October 2017, pp.724-728
- XV. **Akıllı Mobil Robotları Hayalden Gerçeğe Dönüştürmek**  
YAVUZ S.  
ASYU 2017, Alanya, 5 - 07 October 2017
- XVI. **Thermal based exploration for search and rescue robots**  
ÇAKMAK F., USLU E., AMASYALI M. F. , YAVUZ S.  
2017 IEEE International Conference on INnovations in Intelligent Systems and Applications, INISTA 2017, Gdynia, Poland, 3 - 05 July 2017, pp.113-118
- XVII. **A fast 3D exploration algorithm for autonomous aerial robots Otonom Hava Robotlari İçin Hizli Bir 3 Boyutlu Keşif Algoritması**  
Marangoz S., Ergun E. E. , Uslu E., Çakmak F., Altuntaş N., Amasyalı M. F. , Yavuz S.  
25th Signal Processing and Communications Applications Conference, SIU 2017, Antalya, Turkey, 15 - 18 May 2017
- XVIII. **Hazmat charts detection on search and rescue league of RoboCup competitions RoboCup Yarişmaları Arama Kurtarma Ligi Ortamlarında Hazmat İşaretleri Tespiti**

- ÇAKMAK F., USLU E., AMASYALI M. F. , YAVUZ S.  
25th Signal Processing and Communications Applications Conference, SIU 2017, Antalya, Turkey, 15 - 18 May 2017
- XXIX. **Design and implementation of an outdoor line follower robot for RoboCup search and rescue league**  
**RoboCup Arama Kurtarma Ligi Diş Ortam Kategorisi Çizgi İzleyen Robot Platformu Tasarimi ve Gerçeklenmesi**  
Dilaver M. B. , USLU E., ÇAKMAK F., ALTUNTAŞ N., AMASYALI M. F. , YAVUZ S.  
25th Signal Processing and Communications Applications Conference, SIU 2017, Antalya, Turkey, 15 - 18 May 2017
- XX. **Autonomous mobile robot exploration in negative obstacle environment Çukurlu Ortamda Otonom Mobil Robot ile Keşif**  
Keskin N., Uslu E., Çakmak F., Altuntaş N., Amasyalı M. F. , Yavuz S.  
25th Signal Processing and Communications Applications Conference, SIU 2017, Antalya, Turkey, 15 - 18 May 2017
- XXI. **A Fast 3D Exploration Algorithm for Autonomous Aerial Robots**  
Marangoz S., Ergün E. E. , AMASYALI M. F. , USLU E., ÇAKMAK F., ALTUNTAŞ N., YAVUZ S.  
IEEE 25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 16 May 2017, pp.13-16
- XXII. **Autonomous Mobile Robot Exploration in Negative Obstacle Environment**  
Keskin N., USLU E., ÇAKMAK F., ALTUNTAŞ N., AMASYALI M. F. , YAVUZ S.  
IEEE 25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 16 May 2017, pp.5-8
- XXIII. **Autonomous Mobile Robot Exploration in Negative Obstacle Environment**  
Keskin N., USLU E., ÇAKMAK F., Altuntas N., AMASYALI M. F. , YAVUZ S.  
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XXIV. **A Fast 3D Exploration Algorithm for Autonomous Aerial Robots**  
Marangoz S., Ergun E. E. , USLU E., ÇAKMAK F., Altuntas N., AMASYALI M. F. , YAVUZ S.  
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XXV. **Design and Implementation of an Outdoor Line Follower Robot for RoboCup Search and Rescue League**  
DİLAVER M. B. , USLU E., ÇAKMAK F., Altuntas N., AMASYALI M. F. , YAVUZ S.  
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XXVI. **Hazmat Charts Detection on Search and Rescue League of RoboCup Competitions**  
ÇAKMAK F., USLU E., AMASYALI M. F. , YAVUZ S.  
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XXVII. **Authentication For Online Voting Using Physical Biometric**  
Yavuz S., Abbas S.  
INTERNATIONAL CONFERENCE ON ADVANCES IN SCIENCE ICAS 2016, İstanbul, Turkey, 31 August - 02 September 2016
- XXVIII. **Experiences of Team Yildiz in Virtual and Real Rescue League**  
Yavuz S., Amasyalı M. F. , Uslu E., Çakmak F.  
The Future of robot rescue simulation Workshop, Leiden, Netherlands, 29 February - 04 March 2016
- XXIX. **Deformable Part Model and Deep Learning Comparison on Victim Detection**  
Cakmak F., Uslu E., Altuntas N., Marangoz S., Balcilar M., Amasyali M. F. , Yavuz S.  
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1513-1516
- XXX. **An Architecture for Multi-Robot Hector Mapping**  
Balcilar M., USLU E., ÇAKMAK F., ALTUNTAŞ N., Marangoz S., AMASYALI M. F. , YAVUZ S.  
International Symposium on Innovations in Intelligent Systems and Applications (INISTA), Sinaia, Romania, 2 - 05 August 2016
- XXXI. **Impact of Artificial Dataset Enlargement on Performance of Deformable Part Models**  
Yilmaz B., AMASYALI M. F. , Balcilar M., USLU E., YAVUZ S.  
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.193-196

- XXXII. **Efficiency of dynamic local area strategy for frontier-based exploration in indoor environments**  
Akagündüz S., Özalp N., Yavuz S.  
9th International Conference on Intelligent Robotics and Applications, ICIRA 2016, Tokyo, Japan, 22 - 24 August 2016, pp.351-361
- XXXIII. **3 Dimensional Thermal Mapping**  
ALTUNTAŞ N., ÇAKMAK F., USLU E., Balcılar M., AMASYALI M. F. , YAVUZ S.  
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1201-1204
- XXXIV. **Implementation of frontier-based exploration algorithm for an autonomous robot**  
USLU E., ÇAKMAK F., BALCILAR M., Akıncı A., AMASYALI M. F. , YAVUZ S.  
International Symposium on Innovations in Intelligent Systems and Applications, INISTA 2015, Madrid, Spain, 2 - 04 August 2015
- XXXV. **Hudut Hedefleri Temelli Otonom Keşif Algoritması Uygulaması**  
USLU E., ÇAKMAK F., BALCILAR M., AMASYALI M. F. , YAVUZ S.  
23. IEEE Sinyal İşleme Uygulamaları Kurultayı, Malatya, Turkey, 16 May 2015, vol.1, pp.1313-1316
- XXXVI. **Frontier-Based Autonomous Exploration Algorithm Implementation**  
Uslu E., Çakmak F., Balcılar M., Amasyalı M. F. , Yavuz S.  
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.1313-1316
- XXXVII. **nImplementation of Frontier-Based Exploration Algorithm for an Autonomous Robot**  
USLU E., ÇAKMAK F., Balcılar M., Akıncı A., AMASYALI M. F. , YAVUZ S.  
International Symposium on Innovations in Intelligent SysTems and Applications (INISTA 2015), Madrid, Spain, 2 - 04 September 2015, pp.34-40
- XXXVIII. **Human victim detection with Deformable Part Models Değişebilir Parça bazlı Modeller ile Kurban Tanıma**  
Yılmaz B., Balcılar M., AMASYALI M. F. , YAVUZ S.  
2015 23rd Signal Processing and Communications Applications Conference, SIU 2015, Malatya, Turkey, 16 - 19 May 2015, pp.947-950
- XXXIX. **ROS Compatible Robot Platform Implementation**  
ÇAKMAK F., USLU E., BALCILAR M., YAVUZ S., AMASYALI M. F.  
Türkiye Otonom Robotlar Konferansı, Ankara, Turkey, 06 November 2014, vol.1, pp.1-4
- XL. **ROS Uyumlu Robot Platformu Gerçeklenmesi**  
ÇAKMAK F., USLU E., BALCILAR M., YAVUZ S., AMASYALI M. F.  
Türkiye Otonom Robotlar Konferansı (TORK), Ankara, Turkey, 06 November 2014, pp.1
- XLI. **Obstacle Avoidance with Vector Field Histogram Algorithm for Search and Rescue Robots**  
ŞAHİN G., BALCILAR M., USLU E., YAVUZ S., AMASYALI M. F.  
Signal Processing and Communication Applications Conference, Trabzon, Turkey, 23 April 2014, vol.1, pp.766-769
- XLII. **Using Range and Inertia Sensors for Trajectory and Pose Estimation**  
ÇAKMAK F., USLU E., YAVUZ S., AMASYALI M. F. , BALCILAR M., ALTUNTAŞ N.  
Signal Processing and Communication Applications Conference, Trabzon, Turkey, 23 April 2014, vol.1, pp.506-509
- XLIII. **Obstacle Avoidance with Vector Field Histogram Algorithm for Search and Rescue Robots**  
Sahin G., Balcılar M., Uslu E., Yavuz S., Amasyalı M. F.  
22nd IEEE Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, 23 - 25 April 2014, pp.766-769
- XLIV. **Using range and inertia sensors for trajectory and pose estimation Gezinge ve konum kestirim yöntemlerinde mesafe ve atalet duyargalarının kullanımı**  
ÇAKMAK F., USLU E., YAVUZ S., AMASYALI M. F. , Balcılar M., Altuntaş N.  
2014 22nd Signal Processing and Communications Applications Conference, SIU 2014, Trabzon, Turkey, 23 - 25 April 2014, pp.506-509
- XLV. **Routing with Dijkstra in Mobile Ad-Hoc Networks**  
Mahmoodi K., Balcılar M., Amasyalı M. F. , Yavuz S., Uzun Y., Davletov F.

17th International Symposium on Robot World Cup (RoboCup), Eindhoven, Netherlands, 24 June - 01 July 2013, vol.8371, pp.316-325

- XLVI. **Security Analysis of an Encryption Algorithm Based on Cellular Automata and Chaos**  
Özer A. B. , Yavuz S., Özkaynak F.  
6th International Conference on Information Security and Cryptology, Ankara, Turkey, 20 - 21 September 2013, pp.1
- XLVII. **Evaluation Criteria for Chaos Based Cryptographic Systems**  
Yavuz S., Özer A. B. , Özkaynak F.  
Tübitak - A Special Conference: Open Problems in Mathematical and Computational Sciences, İstanbul, Turkey, 01 September 2009
- XLVIII. **Security analysis of an image encryption algorithm based on chaos and DNA encoding** **Kaos ve DNA kodlama tabanlı bir görüntü şifreleme algoritmasının güvenlik analizi**  
Özkaynak F., Özer A. B. , Yavuz S.  
2013 21st Signal Processing and Communications Applications Conference, SIU 2013, Haspolat, Turkey, 24 - 26 April 2013
- XLIX. **Usage of HoG (histograms of oriented gradients) features for victim detection at disaster areas**  
Uzun Y., Balcılar M., Mahmoodi K., Davletov F., AMASYALI M. F. , YAVUZ S.  
8th International Conference on Electrical and Electronics Engineering, ELECO 2013, Bursa, Turkey, 28 - 30 November 2013, pp.535-538
- L. **A comparison of EKF, UKF, FastSLAM2.0, and UKF-based FastSLAM algorithms**  
Kurt-Yavuz Z., YAVUZ S.  
IEEE 16th International Conference on Intelligent Engineering Systems, INES 2012, Lisbon, Portugal, 13 - 15 June 2012, pp.37-43
- LI. **Improvement of the measurement update step of EKF-SLAM**  
Kurt Yavuz Z., YAVUZ S.  
IEEE 16th International Conference on Intelligent Engineering Systems, INES 2012, Lisbon, Portugal, 13 - 15 June 2012, pp.61-65
- LII. **Analysis of chaotic methods for compression and encryption processes in data communication** **Veri iletişiminde sıkıştırma ve şifreleme süreçleri için kaotik yöntemlerin analizi**  
Özkaynak F., Özer A. B. , YAVUZ S.  
2012 20th Signal Processing and Communications Applications Conference, SIU 2012, Fethiye, Mugla, Turkey, 18 - 20 April 2012
- LIII. **Doğanın Hesapsal Güzelliklerinden Öğrendiğimiz Görüntü Şifreleme Algoritmaları**  
Yavuz S., Özkaynak F., Özer A. B.  
Akıllı Sistemlerde Yenilikler ve Uygulamaları Sempozyumu (ASYU 2012), Trabzon, Turkey, 3 - 04 July 2012, pp.187-190
- LIV. **Kaos Tabanlı Yeni Bir Blok Şifreleme Algoritması**  
Yavuz S., Özkaynak F., Özer A. B.  
IV. Ağ ve Bilgi Güvenliği Sempozyumu, İstanbul, Turkey, 25 - 26 November 2011, pp.108-112
- LV. **An automated domain specific stop word generation method for natural language text classification**  
Ayrıl H., YAVUZ S.  
2011 International Symposium on INnovations in Intelligent SysTems and Applications, INISTA 2011, Istanbul-Kadikoy, Turkey, 15 - 18 June 2011, pp.500-503
- LVI. **Simultaneous localization and mapping using extended Kalman filter** **Genişletilmiş Kalman filtresi yöntemine dayalı eş zamanlı konum belirleme ve haritalama algoritması**  
Yavuz S., Kurt Z., Biçer M. S.  
2009 IEEE 17th Signal Processing and Communications Applications Conference, SIU 2009, Antalya, Turkey, 9 - 11 April 2009, pp.700-703
- LVII. **Fuzzy-Neural Robot Controller for Unknown Environment Exploration**  
Yavuz S., Özışık O.  
1st International Fuzzy Systems Symposium (FUZZYSS09), Ankara, Turkey, 1 - 02 October 2009, pp.460-463



- LVIII. An automated domain specific stop word generation method for natural language text classification**  
Yavuz S., Şahin O.  
Int. Symp. On Innovations in Intelligent Systems and Applications, Trabzon, Turkey, 29 June - 01 July 2009, pp.421-424
- LIX. Autonomous Parallel Parking Robot**  
Yavuz S., Şahin O.  
Int. Symp. On Innovations in Intelligent Systems and Applications, Trabzon, Turkey, 29 June 2009 - 01 July 2009, pp.421-424
- LX. A Simulation of Preventive Method to Reduce the Number of Stop&Go Situations in Urban Traffic**  
Yavuz S., Balçılar M., Sönmez A. C.  
Int. Symp. On Innovations in Intelligent Systems and Applications, Trabzon, Turkey, 29 June - 01 July 2009, pp.125-129
- LXI. Geniştirilmiş Kalman Filtresi Yöntemine Dayalı Eş Zamanlı Konum Belirleme ve Haritalama**  
Yavuz S., Kurt Z., Biçer M. S.  
SIU 2009, Kocaeli, Turkey, 9 - 11 April 2009, pp.700-703
- LXII. Simultaneous Localization and Mapping Using Extended Kalman Filter**  
YAVUZ S., Kurt Z., Bicer M. S.  
IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009, pp.914-917
- LXIII. A simultaneous localization and map building algorithm based on Sequential Monte Carlo method**  
**Sıralı Monte Carlo yöntemine dayalı eş zamanlı konum belirleme ve haritalama algoritması**  
Kurt Z., Yavuz S.  
2008 IEEE 16th Signal Processing, Communication and Applications Conference, SIU, Aydın, Turkey, 20 - 22 April 2008
- LXIV. An Autonomous Robot Map Creation and Map Optimization Using Genetic Algorithms and Artificial Neural Networks**  
Cabar I., Erol O. K. , YAVUZ S.  
8th WSEAS International Conference on Applied Informatics and Communications, Rhodes, Greece, 20 - 22 August 2008, pp.443-445
- LXV. A Simultaneous Localization and Map Building Algorithm Based on Sequential Monte Carlo Method**  
Kurt Z., YAVUZ S.  
IEEE 16th Signal Processing and Communications Applications Conference, Aydın, Turkey, 20 - 22 April 2008, pp.709-712
- LXVI. An occupancy grid based SLAM method**  
Özışık O., Yavuz S.  
IEEE International Conference on Computational Intelligence for Measurement Systems and Applications, İstanbul, Turkey, 14 - 16 July 2008, pp.117-119
- LXVII. Optical Music Recognition**  
Yavuz S., Özışık O.  
Int. Symp. On Innovations in Intelligent Systems and Applications, İstanbul, Turkey, 20 - 23 June 2007, pp.257-261
- LXVIII. YEEM : Yazılım Projeleri Maliyet Tahminleme Ölçev Seti ve Modeli**  
Yavuz S., Kalıpsız O., Ayyıldız M.  
ELECO 2006, Bursa, Turkey, 6 - 10 December 2006, pp.1-4
- LXIX. Eş Zamanlı Konum Belirleme ve Harita Oluşturma Amaçlı Otonom Bir Robot**  
Yavuz S., Amasyalı M. F. , Balçılar M., Bilgin G., Dinç T., Kurt Yavuz Z.  
Elektrik Elektronik Bilgisayar Mühendisliği Sempozyumu (ELECO 2006), Bursa, Turkey, 6 - 10 December 2006, pp.225-229
- LXX. A Metric-Set and Model Suggestion for Better Software Project Cost Estimation**  
Ayyıldız M., KALIPSIZ O., YAVUZ S.  
Conference of the World-Academy-of-Science-Engineering-and-Technology, Venice, Italy, 24 - 26 November 2006, vol.16, pp.274-279

- LXXI. **A neural network based methodology for performance evaluation of parallel systems**  
YAVUZ S.  
18th Australian Joint Conference on Artificial Intelligence, AI 2005: Advances in Artificial Intelligence, Sydney, Australia, 5 - 09 December 2005, pp.297-307
- LXXII. **Paralel Sistemlerin Performansının Yapay Sinir Ağları ile Değerlendirilmesi**  
Yavuz S.  
BMYS2005 Bilimde Modern Yöntemler Sempozyumu, Kocaeli, Turkey, 16 - 18 November 2005, pp.44-51
- LXXIII. **Performance Prediction of a 2-Dimensional FFT on Different Platforms Using Neural Networks**  
Yavuz S.  
Int. Symp. On Innovations in Intelligent Systems and Applications, İstanbul, Turkey, 15 - 18 June 2005, pp.136-139

## Supported Projects

- YAVUZ S., ÇAKMAK F., Project Supported by Higher Education Institutions, Çoklu Mikro Hava Araçlarında Rota Planlama Navigasyon Haritalama ve Keşif Algoritmaları Gerçeklenmesi, 2017 - Continues
- Yavuz S., Uslu E., Amasyalı M. F. , Çakmak F., Project Supported by Defense Industry, İŞBİRLİKÇİ ROBOTLAR (İHA VE İKA'lar) İLE OTONOM KEŞİF, GÜDÜM VE SEYRÜSEFER (ROBOTİM) PROJESİ, 2020 - 2023
- Yavuz S., Amasyalı M. F. , Uslu E., TUBITAK Project, 118E215 - Heterojen Çok Robotlu Otonom Arama Kurtarma Takımı İçin Etkin Görev Dağılımı, 2018 - 2021
- USLU E., YAVUZ S., AMASYALI M. F. , ÇAKMAK F., AKINCI A., MARANGOZ S., ALTUNTAŞ N., Project Supported by Higher Education Institutions, Gerçek Robot Platformu ile Tasarlanmış ve Tasarlanmamış Engebeli Alanda Otonom Gezinim, 2015 - 2018
- AMASYALI M. F. , ÇAKMAK F., ALTUNTAŞ N., YAVUZ S., USLU E., AKINCI A., MARANGOZ S., DİLAVER M. B. , KIRLI E., Project Supported by Higher Education Institutions, Kısıtlı İletişime Sahip Robot Takımları İçin Otonom Keşif Algoritmalarının Tasarlanması, 2015 - 2017
- Yavuz S., Sezgin A., Project Supported by Higher Education Institutions, İnsansız Hava Aracı Tasarım ve Kontrolü, 2015 - 2017
- Yavuz S., Amasyalı M. F. , Uslu E., TUBITAK Project, Otonom Arama Kurtarma Robotları İçin Keşif, Haritalama Ve Afetlerde Tespit Algoritmalarının Geliştirilmesi, 2013 - 2016
- YAVUZ S., Project Supported by Higher Education Institutions, Afet Ortamlarında Kullanılacak Otonom Robot Tasarımı, 2013 - 2014
- YAVUZ S., Project Supported by Higher Education Institutions, Afet Robotları İçin Algoritma Tasarımı, 2013 - 2014
- YAVUZ S., Project Supported by Higher Education Institutions, Eş zamanlı konum belirleme ve harita oluşturma amaçlı robot takımı projesi., 2008 - 2012
- YAVUZ S., Project Supported by Higher Education Institutions, Robot Takımı ile Eş Zamanlı Konum Belirleme ve Haritalama., 2010 - 2011
- Bolat B., Yavuz S., Amasyalı M. F. , Altun O., Kurt Z., Uslu E., Project Supported by Higher Education Institutions, Eş Zamanlı Konum Belirleme ve Harita Oluşturma Amaçlı Otonom Robot Projesi YTÜ BAPK 27 04 01 01, 2007 - 2008

## Patent

- Yavuz S., KONUM BELİRLEYEN BİR CİHAZ VE OTONOM BİR HARİTALAMA VE KONUM BELİRLEME YÖNTEMİ, Patent, CHAPTER G Physics, Initial Registration, 2020

## Memberships / Tasks in Scientific Organizations

- ACM, Member, 2008 - Continues  
IEEE Computer Society, Member, 2008 - Continues

EMO, Member, 1991 - Continues

## Scientific Refereeing

Nonlinear Dynamics, SCI Journal, January 2016

Nonlinear Dynamics, SCI Journal, September 2013

IEEE/RSJ Int. Conference on Intelligent Robots and Systems, SCI Journal, October 2012

TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES, SCI Journal, May 2011

Inista 2010, SCI Journal, June 2010

Inista 2009, SCI Journal, June 2009

Inista 2008, SCI Journal, June 2008

Inista 2007, SCI Journal, June 2007

## Scientific Research / Working Group Memberships

OLASILIKSAL ROBOTİK, YILDIZ TEKNİK ÜNİVERSİTESİ, Türkiye, robotics.yildiz.edu.tr, 2006 - Continues

## Edit Congress and Symposium Activities

ITURO 2018, Invited Speaker, İstanbul, Turkey, 2018

Akıllı Sistemlerde Yenilikler ve Uygulamalar (ASYU) Konferansı, Invited Speaker, Antalya, Turkey, 2017

## Citations

Total Citations (WOS):251

h-index (WOS):5

## Scholarships

Yurt Dışı Doktora Burs Programı, YOK, 1997 - 2001

## Awards

Kıvrak H., Çakmak F., Köse H., Yavuz S., Best Paper Award, International Conference On Innovations In Intelligent Systems And Applications, August 2020

Dilaver M. B. , Çakmak F., Uslu E., Altuntaş N., Amasyalı M. F. , Yavuz S., En İyi Bildiri Ödülü, Akıllı Sistemlerde Yenilikler Ve Uygulamaları Konferansı, October 2017

Yavuz S., Uslu E., Amasyalı M. F. , Çakmak F., Arama Kurtarma Simülasyon Ligi'nde 1.lik, Nist, August 2017

Yavuz S., Amasyalı M. F. , Uslu E., Çakmak F., Altuntaş N., RoboCup World Championship - En iyi otonom robot Ödülü, Nist, August 2017

Yavuz S., Amasyalı M. F. , Uslu E., Çakmak F., Altuntaş N., RoboCup World Championship - En iyi keşif robotu Ödülü, Nist, August 2017

Yavuz S., Çakmak F., Amasyalı M. F. , Uslu E., RoboCup En İyi Dış Ortam Robotu, Nist, August 2017

Yavuz S., Amasyalı M. F. , Uslu E., Çakmak F., RoboCup German Open, Nist, May 2017

## **Entrepreneurship Activities**

Anonymous, Polonom teknoloji sanayi ve ticaret A.Ş, 20 December 2017, Co-Founder