Halit ERGEZER, PhD
Dumlupınar Bulvarı
Prestij Konutları C4 Blok, No: 24
Çayyolu, ANKARA, TURKEY
Phone : +90 542 230 2143 (Mobile)
E-mail : halitergezer@gmail.com

RESEARCH INTERESTS	Algorithms, Radars, Unmanned Aerial Vehicles, Modelling and Simulation.

EDUCATION

Ph.D. Electrical and Electronics Engineering, September 2013, METU, Ankara, Turkey.

*Thesis: "*Path Planning and Coordinated Guidance of Unmanned Aerial Vehicles*"*

In this thesis, novel path planning algorithms have been proposed for both off-line and online coordinated path planning Unmanned Aerial Vehicles (UAVs). The path planning algorithms are implemented in MATLAB. The autopilot and nonlinear model of UAVS are implemented in Simulink.

M.Parlar Vakfı, the thesis of the year award.(http://www.parlar.org.tr/2013-odulleri/)

M.S. Computer Engineering, August 2003, Başkent University, Ankara, Turkey.

Thesis: "Face Recognition: Eigenfaces, Neural Networks, Gabor Wavelets Approaches".

B.S. Electrical and Electronics Engineering, June 2000, Gazi University, Ankara, Turkey

*B.S Project : "*Designing a voting system using multiplexers"

EMPLOYMENT

1- Assistant Prof. Dr., Çankaya University, 01/10/2018 –

2- Senior Systems Design Engineer, Turkish Aerospace Industries, Inc. 10/10/2016 – 30/09/2018

Involved Project: Turkish Fighter Aircraft (TF-X),

Job Description: Team Leader, Radar and Electronic Warfare Systems. High level models of radar and EW systems have been implemented in Python to evaluate system performance in operational environment.

3- Instructor, Electrical and Electronics Engineering Department, Ankara University, (Part Time) 09/2016 – 01/2018

Given Courses: Systems Engineering, EW and Radar Systems

4 – Consultant, ESEN System Integration (Subsidiary of SNC- Sierra Nevada Corporation), 07/2016 – 10/10/2016

Involved Project: Traffic Collision and Avoiding System (TCAS),

Job Description: System level design of the front-end of the TCAS receiver. Developing detection algorithm to decode Mod C altitude codes in a FRUIT environment. Designing DF algorithm based on the amplitude and phase comparison. Implementing TCAS signal environment using MATLAB/Simulink in order to test surveillance algorithms. Implementing Enhanced Squitter detection algorithm based on DO-260.

5- Engineering Director, Ortadoğu Engineering and Ortadoğu Defence Technolgies 01/02/2016 – 26/05/2016

6- Lead Systems Design Engineer, Ortadoğu Engineering 01/02/2015 – 01/02/2016

7- Lead Systems Design Engineer, MIKES A.Ş (Microwave Electronics System Inc.) 07/2010 – 31/01/2015

Job Description: Systems Design Engineer;

Radar, Target and Environment Simulator; (**Engineering Project Manager**); It is a real-time, closed loop simulator that generates baseband IQ signal for testing the Radar Signal Processing Unit. It simulates, targets, clutter effects, effects of radar front-end, transmitting and receiving antenna patterns, jammer, chaff etc. Models are implemented in MATLAB and C++.

8- Specialist, Systems Design Engineer, MIKES A.Ş (in USA) (Microwave Electronics System Inc.) 07/2007 – 07/2010

Designing Jamming techniques, Evaluation of jamming technique performances, threat analysis, Radar Simulator using MATLAB, Software to analyze Post Mission Data. Simulations in MATLAB, Designating the systems requirements, preparing the systems test plan.

9- Systems Design Engineer, MIKES A.Ş (Microwave Electronics System Inc.) 06/2006 – 07/2007

Involved Projects:

Radar, Target and Environment Simulator

SPEWS-II (Self Protection Electronic Warfare Systems),

HEWS, threat analysis (EWIR).

KATIB (Channel Swapping Signal Unit); developing jamming algorithms.

Radar Signal Simulator to test EW Systems using Agilent arbitrary waveform generator and MATLAB.

ECM (Electronic Counter Measure) Signal Analysis Equipment (ECM-SAE); developing algorithms in order to analyzing ECM signals by using Tektronix RSA 6000 spectrum analyzer and DPO 7000 series oscilloscope.

10- Researcher (as a PhD candidate), The project is supported by The Scientific and Technological Research Council of Turkey (TUBITAK) under Grant 110E192.
02/2011 – 10/2013

Job Description: Coordinated Guidance of Multiple Unmanned Aerial Vehicles. (The name of the project and the title of my PhD thesis are the same). Online path planning for multi-UAV for information maximization

11- Software Specialist, Netcad National CAD and GIS Company (Project Manager)
02/ 2006- 06/2006

Job Description: Preparing the traceability matrix between the requirements&analysis analysis&design, design&test, preparing attribute matrices for projects. Designing algorithms, use-case diagrams, sequence diagrams etc.
Involved Projects: TAKBIS, DrCAD.(C++)

12- Instructor, Computer Engineering Department, Başkent University,
08/2004 – 03/2006

Given Courses: Bil 275 Digital Design, Bil 256 Data Communications, Bil 491/492 Graduation Projects, Bil 375 Computer Architecture, Bil 102 Computer Programming (C/C++)

13- Research Assistant, Computer Engineering Department, Başkent University,
08/2000 – 08/2004.

GRADUATE COURSEWORK	
1- Pattern Recognition,	8- Computer Networks
2- Computer Vision,	9- Algorithms and Complexity Analysis
3- Optimization,	10- Robotics
4- Artificial Neural Networks,	11- Switching and Automata
5- Digital Image Processing,	12- Numerical Analysis
6- Machine Learning,	
7- Artificial Intelligence,	

COURSE RELATED PROJECTS

Optical character recognition using Artificial Neural Networks (C++),

Handwritten digit recognition using Support Vector Machines. (C++)

Face recognition using Hidden Markov Models, (MATLAB)

Checkers Learner using Reinforcement learning (C++),

A complete software tool was developed covering all subjects of "Mathematical Bases of Computer Graphics" lecture, including B-spline curves, Bezier Curves, surfaces etc. in C++.

PUBLICATIONS   **Google Scholar:** Citations: 141, h-index:6, i10-index:4.

Journal Publications:

1. F. Çakıcı, **H. Ergezer**, U. Irmak, M. K. Leblebicioğlu, "*Coordinated guidance for multiple UAVs*", Transactions of the Institute of Measurement and Control, doi: 10.1177/0142331215583102, May 11, 2015.

2. **H.Ergezer** K. Leblebicioğlu, "*Path Planning for UAVs for Maximum Information Collection Using Evolutionary Computation*", IEEE Transactions on Aerospace and Electronic Systems, vol 49 no 1, pp. 502-520, 2013.

3. **H.Ergezer** K. Leblebicioğlu, "*3D path planning for UAVs for maximum information collection*", Journal of Intelligent and Robotic Systems, vol. 73, pp. 737-762, 2014.

4. **H. Ergezer** K. Leblebicioğlu. "*Refining The Progressive Multiple Sequence Alignment Score Using Genetic Algorithms*" 14th Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN'05), Kuşadası, June 10-11, 2005. **Published as** Revised Selected Papers in **Lecture Notes in Computer Science/ Lecture Notes in Artificial Intelligence**, ISSN: 0302-9743, Volume 3949/2006, ISBN: 978-3-540-36713-0, Springer Berlin / Heidelberg. Tuesday, July 25, 2006.

International Conference Publications:

1. **H. Ergezer**, M.F. Keskin, O. Günay*, "Hardware-In-the-Loop Radar Test Simulator",* 4th International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH 2014), Vienna, Austria, 28-30 August, 2014.

2. **H.Ergezer** K. Leblebicioğlu, "*Planning Unmanned Aerial Vehicle's Path for Maximum Information Collection Using Evolutionary Algorithms*", 18th World Congress of the International Federation of Automatic Control (IFAC), Milano, Italy, August 28 – September 2, 2011.

3. **H.Ergezer** K. Leblebicioğlu, "*3D path planning for UAVs for maximum information collection*", Unmanned Aircraft Systems (ICUAS), 2013 International Conference on, pp 79 – 88, Atlanta, GA, USA, 28-31 May 2013.

Book Chapters:

1. **H. Ergezer,** M.F. Keskin, O. Günay, "*Real-Time Radar, Target, and Environment Simulator*", "Simulation and Modeling Methodologies, Technologies and Applications", pp. 217-234, 2015, Springer International Publishing.

National Conference Publications:

1. **H.Ergezer**, K. Leblebicioğlu, "*İnsansız Hava Araçları için Çevrimiçi Rota Planlama*", Otomatik Kontrol Ulusal Toplantısı, (TOK'14), Kocaeli Üniversitesi, Kocaeli, Türkiye, 11-13 Eylül 2014.

2. F.Çakıcı, **H.Ergezer,** U.Irmak, K. Leblebicioğlu, "*Çoklu İnsansız Hava Aracı için Koordineli Güdüm Uygulaması*", Otomatik Kontrol Ulusal Toplantısı, (TOK'14), Kocaeli Üniversitesi, Kocaeli, Türkiye, 11-13 Eylül 2014.

3. A. Öztürk, **H.Ergezer,** "*Elektronik Karşı Tedbir Teknikleri İçin Sinyal Analiz Aracı: Çoklu Menzilde Sahte Hedef Analizi*", Savunma Teknolojileri Konferansı (SAVTEK 2014), Orta Doğu Teknik Üniversitesi Ankara, 25-27 Haziran 2014.

4. **H.Ergezer** K. Leblebicioğlu, "*İnsansız Hava Araçları için En Çok Bilginin Toplanacağı 3B Güzergah Planlaması*", 22. IEEE Sinyal İşleme ve İletişim Uygulamaları Kurultayı, Lefkoşe, Kıbrıs, 24-26 Nisan 2013.

5. O. Günay, **H. Ergezer**, E. İpek, E. Aras, "*Menzil ve Hız Aldatma Tekniklerinin Gerçek Zamanlı FPGA Uygulaması*", 22. IEEE Sinyal İşleme ve İletişim Uygulamaları Kurultayı, Lefkoşe, Kıbrıs, 24-26 Nisan 2013. (**Best Practice Paper award, 1st place**)

6. O. Günay, **H. Ergezer**, "*Elektromanyetik Dalga Yayılımının 3 Boyutlu Ortamda Modellenmesi*", 20. IEEE Sinyal İşleme ve İletişim Uygulamaları Kurultayı, Ölüdeniz, Fethiye, Muğla, 20-22 Nisan 2012.

7. **H.Ergezer** K. Leblebicioğlu, "*Çoklu İnsansız Hava Araçları İçin Güzergah Planlaması*", 20. IEEE Sinyal İşleme ve İletişim Uygulamaları Kurultayı, Ölüdeniz, Fethiye, Muğla, 20-22 Nisan 2012. (**Best Practice Paper award, 3rd place**).

8. **H.Ergezer** K. Leblebicioğlu, "*İnsansız Hava Araçları İçin 3 Boyutlu Ortamda Rota Planlama*", Savunma Teknolojileri Konferansı (SAVTEK 2012), Orta Doğu Teknik Üniversitesi Ankara, 20-22 Haziran 2012.

9. **H.Ergezer** K. Leblebicioğlu, "*İnsansız Hava Araçları için En Çok Bilginin Toplanacağı Rotanın Genetik Algoritmalar Kullanılarak Planlaması*", Ulusal Havacılık ve Uzay Konferansı (UHUK 2010), Anadolu Üniversitesi Eskişehir, 16-18 Eylül 2010.

10. **H.Ergezer** K. Leblebicioğlu, "*İnsansız Hava Araçları için En Çok Bilginin Toplanacağı Rotanın Örüntü Bulma Algoritmaları Kullanılarak Planlaması*", Savunma Teknolojileri Konferansı, Orta Doğu Teknik Üniversitesi Ankara, 23-25 Haziran 2010.

11. **H.Ergezer** S. Karakütük, "*Elektronik Harp Sistemlerinin Testi için Radar İşaret Benzetim Cihazı*", Elektrik, Elektronik, Bilgisayar, Biyomedikal Mühendisliği 13. Ulusal Kongresi, Orta Doğu Teknik Üniversitesi Ankara, 23-26 Aralık 2009.

12. **H. Ergezer** K. Leblebicioğlu. "*Çoklu Biyodizin Hizalama Probleminde Kullanılan Amaç Fonksiyonlarının Uygunluğunun Değerlendirilmesi*" Sinyal İşleme ve Uygulamaları Konferansı, (SIU'08) Kuşadası, 19-22 Nisan 2008.

13. **H. Ergezer** K. Leblebicioğlu, "*Proteinlerin İkincil Yapılarının Destekçi Vektör Makinaları Kullanılarak Tahmin Edilmesi*" Otomatik Kontrol Türk Milli Komitesi Otomatik Kontrol Ulusal Toplantısı, (TOK'06), 6-8 Kasım 2006 Ankara, Türkiye.

14. **H. Ergezer** K. Leblebicioğlu. "*Biological Sequence Alignment Using Support Vector Machines and Artificial Neural Networks*" 13th Turkish Symposium on Artificial Intelligence and Neural Networks, İzmir, June 10-11, 2004.

15. **H. Ergezer** K. Leblebicioğlu. "*Saklı Markov Modeli İle Çoklu Biyodizin Hizalama*" Sinyal İşleme ve Uygulamaları Konferansı, (SIU'04) Kuşadası, 26-29 Nisan 2004.

16. **H.Ergezer** M.S. Beyazkılıç. "*Renk Tabanlı Bölütleme ve Enej Eşikleme Yöntemi İle Yüz Sezimi*" Asyu – Inısta 2004 Akıllı Sistemlerde Yenilikler Ve Uygulamaları Sempozyumu 23-25 Haziran 2004, İstanbul.

17. **H.Ergezer** M. Dikmen, E.Özdemir "*Artificial Neural Networks Based Face Recognition Using Discrete Cosine Transform*", 12th Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN'03), Çanakkale, July 2-4 2003.

HONORS AND AWARDS	Full scholarship awarded by Başkent University for M.S. September 2000.
	Had the 5th highest CGPA in the Class of 2000, Department of Electrical Engineering, Gazi University.
	METU the thesis of the year award, M. Parlar Vakfı.

RECEIVED TRAINING	Phased Array Antenna Radars, *Georgia Institute of Technology, Atlanta, USA*
	17/04/2017 - 21/04/2017
	MATLAB Basics, MATLAB Signal Processing Toolbox, Advanced Topics in MATLAB
	Electronic Warfare.
	DOORS User training,
	DOORS training for Administrator,
	SysML training.
	CMMI.
	Process Modelling.

PERSONAL SKILLS	Language:
	Turkish
	English
	Computer: MATLAB/Simulink, C/C++, Python.

PERSONAL INFORMATION	Citizenship: Citizen of the Republic of Turkey
	Date/Place of birth: 15/09/1978 Kırşehir,Turkey
	Military status: Done.
	Marital status: Married
	Club/Assocation Memberships: EMO
	Interests: Bowling, cinema.
	Driving License: B (1998)

REFERENCES	Available Upon Request.