Dr. Nazim Kemal Ure

Contact Info

Associate Professor
Istanbul Technical University,
Department of Artificial Intelligence and Data Engineering, Room 308
ITU Ayazaga Campus,
Faculty of Computer and Informatics Engineering
34469 Maslak, Istanbul

Cellphone: +90-533-151-0463
E-mail: ure@itu.edu.tr
Web: kemalure.com

Research Interests

Machine Learning and Data Driven Optimization: Deep Learning, Deep Reinforcement Learning, Data-driven Decision Making Systems, Large-Scale Optimization, Applications of Machine Learning to Transportation Systems, Operations Research.

Autonomous Multiagent Systems: Self-Driving Vehicles, Unmanned Aerial Vehicles (UAVs), Multi-UAV Coordination and Trajectory Planning Algorithms, Military and Civil Swarm Applications, Outdoor and Indoor Autonomous Flight Tests.

High Accuracy Guidance, Navigation and Control: Control System Design and Maneuver Planning for Agile Fighter Aircraft, Guidance and Control of Ballistic and Interceptor Missiles, Spacecraft Attitude Determination and Control, Distributed Filtering and Sensor Fusion, Inertial Navigation Systems, Nonlinear and Adaptive Flight Control.

Experience

Associate Professor, Istanbul Technical University — February 2022 - Present
Faculty of Computer and Informatics Engineering, Department of Artificial Intelligence and Data Engineering
- Vice Director of ITU Artificial Intelligence and Data Science Research Center (ITU AI))
- Vice Dean of Research (June 2021 - August 2022)

Associate Professor,
Istanbul Technical University, Department of Aeronautical Engineering — May 2020 - January 2022

Assistant Professor,
Istanbul Technical University, Department of Aeronautical Engineering — August 2015 - May 2020

Research Specialist, Istanbul Technical University Technology Transfer Office — February 2015 - August 2015

Research Assistant, Massachusetts Institute of Technology — September 2010 - January 2015
Department of Aeronautics and Astronautics
Affiliated with
- Aerospace Controls Lab (ACL)
- Laboratory Of Decision and Information Systems LIDS

Education

Massachusetts Institute of Technology, Cambridge, Massachusetts, USA

Ph.D., Department of Aeronautics and Astronautics, — September 2010 - January 2015
- Thesis Title: *Multiagent Planning and Learning with Randomized Decompositions and Adaptive Representations*
- Advisor: Prof. Jonathan P. How
- Field: Autonomous Systems and Machine Learning
- Ph.D. Minor: Mathematics

Istanbul Technical University, Ayazağa, Istanbul, Turkey

M.Sc., Defense Technologies, — September 2008 - June 2010
- Thesis Title: *Design of a Multimodal Planning and Control Framework for Agile Maneuvering Unmanned Combat Aerial Vehicles*

B.Sc., Faculty of Aeronautics and Astronautics: Department of Astronautical Eng., — September 2004 - June 2008
- Thesis Title: *Development of Robust and Nonlinear Control Laws for Satellite Attitude Control*

B.Sc., Faculty of Aeronautics and Astronautics: Department of Aeronautical Eng., — September 2004 - June 2008
- Thesis Title: *Design of Full Flight Envelope Nonlinear Control Laws for Agile Maneuvering Aircraft*

Projects

- Guidance Algorithms for Autonomous Ships
  - Position: Principal Investigator
  - Funding: ASELSAN
  - Date: 2022-Present
- Development of Artificial Intelligence Systems for Swarm to Swarm Engagement
  - Position: Principal Investigator
  - Funding: Defense Industry Agency of Turkey
  - Date: 2022-Present
- New Solution Methods Based on Matrix Norm for Stochastic Games and Artificial Intelligence Applications
  - Position: Researcher
  - Funding: Scientific and Technological Research Council of Turkey
  - Date: 2022-Present
- Human-AI Teaming Platform for Maintaining and Evolving AI Systems in Manufacturing
  - Position: Principal Investigator
  - Funding: European Commission
  - Date: 2020-Present
- Development of Advanced Artificial Intelligence Methods for Perception and Planning in Swarm Robotics
  - Position: Principal Investigator
  - Funding: HAVELSAN
  - Date: 2020-Present
- Active Imitation Learning and Inverse Deep Reinforcement Learning Methods for Flight Control
  - Position: Principal Investigator
  - Funding: TAI
  - Date: 2020-Present
- Advanced Model Compression Methods for Deep Learning Based Vision Systems
  - Position: Principal Investigator
  - Funding: Arcelik
  - Date: 2019-2020
- Graphical Deep Reinforcement Learning for Multiagent Decision Making
  - Position: Principal Investigator
  - Funding: ASELSAN
  - Date: 2019-2020
- High Accuracy Guidance Navigation and Control System Design for Unmanned Cargo Planes
  - Position: Principal Investigator
  - Funding: Turkish Airlines
  - Date: 2019-2020
- Retail Sales Prediction with Deep Learning
  - Position: Principal Investigator
  - Funding: Migros
  - Date: 2019
- Deep Reinforcement Learning and Perception for Autonomous Driving
  - Position: Principal Investigator
  - Funding: Eatron Technologies
  - Date: 2018-2019
- High Accuracy Guidance Navigation and Control System Design for Launch Vehicles
  - Position: Principal Investigator
  - Funding: Delta V
  - Date: 2019
- Multi UAV Surveillance for Border Security Applications
  - Position: Principal Investigator
  - Funding: Milsoft
  - Date: 2018-2019

- Social Media Engagement Prediction With Deep Learning
  - Position: Principal Investigator
  - Funding: Lisa AI
  - Date: 2017-2020
- Decision Making Under Uncertainty and Deep Learning for Self-Driving Cars
  - Position: Principal Investigator
  - Funding: AVL
  - Date: 2018-2019
- Airline Operations Management Using Data-driven Optimization Methods
  - Position: Principal Investigator
  - Funding: General Electric Aviation
  - Date: 2018-2020
- Structural Health Monitoring and Failure Prediction with Deep Learning
  - Position: Principal Investigator
  - Funding: General Electric Power
  - Date: 2018-2019
- DUF: Deep Learning UAV Networks for Autonomous Forest Firefighting
  - Position: Principal Investigator
  - Funding: European Commission
  - Date: 2017-2019
- Fault Tolerant Control System Design for Fighter Aircraft with Probabilistic Sensor and Actuator Failure Models
  - Position: Principal Investigator
  - Funding: Turkish Aerospace Industries (TAI)
  - Date: 2017-2019
- High Accuracy Guidance Navigation and Control System Design for Guided Munitions
  - Position: Principal Investigator
  - Funding: ASELSAN
  - Date: 2017-2018
- Autonomous Agile Maneuvering Control and Planning Systems for Unmanned Aerial Vehicles
  - Position: Principal Investigator
  - Funding: TUBITAK
  - Date: 2016-2018
- Combination of Probabilistic Trajectories (COPTRA)
  - Position: Researcher
  - Funding: European Commission
  - Date: 2016-2018
- Threat Modeling for Missile Defense Systems
  - Position: Technical Lead
  - Funding: ASELSAN
  - Date: 2015-2017
- ITUDrone: UAV System for Campus Security
  - Position: Principal Investigator
  - Funding: ITU
  - Date: 2015-2016
- IHATAR: UAV System for Crop Monitoring
  - Position: Principal Investigator
  - Funding: ITU
  - Date: 2015-2016
- Multiagent Planning and Learning Under Uncertainty with Applications to Forest Fire Management
  - Position: Lead Researcher
  - Funding: NASA
  - Date: 2013-2015

- Health Aware Task Planning for UAV SWARMS, Boeing Research and Technology, Researcher
  - Position: Lead Researcher
  - Funding: Boeing
  - Date: 2010-2015
- High Accuracy Platform Development for Nano Satellites with Attitude Control
  - Position: Researcher
  - Funding: TUBITAK
  - Date: 2009-2010

Book Chapters

[1] Ure, N. K., Chowdhary, G., How, J. P., Vian, J., Multi-Agent Planning for Persistent Surveillance, in the book Decision Making Under Uncertainty, Edited by Mykel J. Kochenderfer. MIT Press 2015.

Journal Papers

[2] Izgi, B., Ozkaya, M., Ure, N.K. and Perc, M.. Extended matrix norm method: Applications to bimatrix games and convergence results. Applied Mathematics and Computation, 438, p.127553, 2023.

[3] Keser, R.K., Ayanzadeh, A., Aghdam, O.A., Kilcioglu, C., Toreyin, B.U. and Ure, N.K. PURSUhInT: In Search of Informative Hint Points Based on Layer Clustering for Knowledge Distillation. Expert Systems with Applications, 213, p.119040, 2023.

[4] Ergen, M., Inan, F., Ergen, O., Shayea, I., Tuysuz, M.F., Azizan, A., Ure, N.K. and Nekovee, M., 2020. Edge on Wheels with OMNIBUS Networking in 6G Technology. IEEE Access.

[5] Eroglu, B., Sahin, M. C., and Ure, N. K., Autolanding control system design with deep learning based fault estimation. Aerospace Science and Technology, 105855, 2020.

[6] Mohtashamkhani, M., Gahsemzadeh, L., Vahidnia, S., Ozturk, Y. E., Yuvakalioglu, M., Akin, S., Ure, N. K., Deep Learning Based Crack Detection with Applications to Structural Health Monitoring of Gas Turbines, Structural Health Monitoring, 2019.

[7] Yildiz, A., Akcal, M. U., Hostas, B., Ure, N. K., Switching Control Architecture with Parametric Optimization for Aircraft Upset Recovery, AIAA Journal of Guidance Navigation and Control, 2019.

[8] Akcal, M. U., Ure, N. K., Predictive Missile Guidance with Online Trajectory Learning, Defence Science Journal, 2017

[9] Ure, N. K., Computationally Efficient Assessment of Fighter Aircraft Mission Survivability with Probabilistic Graphical Models,Journal of Aeronautics and Space Technologies, 2017

[10] Omidshafiei S., Agha-mohammad A., Chen Y. F., Ure N. K. , How J. P., Vian J., Surati R., , "Measurable Augmented Reality for Prototyping Cyberphysical Systems: A Robotics Platform to Aid the Hardware Prototyping and Performance Testing of Algorithms," in IEEE Control Systems, vol. 36, no. 6, pp. 65-87, Dec. 2016.

[11] Yuksek, B., Ure, N. K. Caliskan, F., Inalhan G., "Fault Tolerant Heading Control System Design for Turac Unmanned Aerial Vehicle", Transactions of the Institute of Measurements and Control (TIMC), 2016.

[12] Yuksek, B., Ure, N. K. " Optimization of Allocation and Launch Conditions of Multiple Missiles for Three Dimensional Collaborative Interception of Ballistic Targets", International Journal of Aerospace Engineering, Special Issue on Recent Advances on Aerospace Controls, 2016.

[13] Pasaoglu, C., Baspinar, B., Ure, N. K., Inalhan, G., Hybrid Systems Modelling and Automated Air Traffic Control for Three Dimensional Separation Assurance, Journal of Aerospace Engineering, 2015

[14] Ure, N. K., Chowdhary, G., How, J. P., Vian, J. Health Aware Planning Under Uncertainty for Collaborating Heterogeneous Teams of Mobile Agents. Unmanned Systems, 2015.

[15] Ure, N. K., Chowdhary, G., Chen, S., How, J. P., Vian, J., Distributed Learning for Planning Under Uncertainty Problems with Heterogeneous Teams, Journal of Intelligent & Robotic Systems, 2014.

[16] Ure, N. K., Chowdhary, G., Toksoz, T., How, J. P., Vavrina, M., Vian, J. Automated Battery Management System for Enabling Multi-UAV Persistent Missions. IEEE Transacation on Mechatronics, 2013.

[17] Ure, N. K., Inalhan G., Autonomous Control of Unmanned Combat Air Vehicles: Design of a Multimodal Control and Flight Planning Framework for Agile Maneuvering, IEEE Control Systems Magazine, 32(5) 74-95. 2012.

[18] Koyuncu, E., Ure, N. K., Inalhan G., Integration of path/maneuver planning in complex environments for agile maneuvering UCAVs, Journal of Intelligent & Robotic Systems, 57(1) 143-170. 2010.

Conference Publications

[19] Kaymaz, M. and Ure, N.K., Obstacle Identification and Ellipsoidal Decomposition for Fast Motion Planning in Unknown Dynamic Environments, ICRA 2023.

[20] Dagdanov, R., Durmus, H. and Ure, N.K., Self-Improving Safety Performance of Reinforcement Learning Based Driving with Black-Box Verification Algorithms, ICRA 2023.

[21] Guresti, B., Vanlioglu, A., Ure, N. K., IQ-Flow: Mechanism Design for Inducing Cooperative Behavior to Self-Interested Agents in Sequential Social Dilemmas (2023), AAMAS 2023.

[22] Demir, U., Satir, A. S., Sever, G., Yikilmaz, C., Ure, N. K., Scalable Planning and Learning Framework Development for Swarm-to-Swarm Engagement Problems (2023), In AIAA SCITECH 2023 Forum.

[23] Dagdanov, R., Eksen, F., Durmus, H., Yurdakul, F.,Ure, N. K., DeFIX: Detecting and Fixing Failure Scenarios with Reinforcement Learning in Imitation Learning Based Autonomous Driving, IEEE Intelligent Transportation Systems Conference (ITSC), 2022.

[24] Atik, K.C., Erdogan, E., Yahsi, A.Y., Kara, F., Yalcin, B., Cetin, G. and Ure, N.K., 2022, June. Cooperative Visual Inertial Odometry for Heterogeneous Swarm of Drones Navigating in Noisy Environments. In 2022 IEEE 31st International Symposium on Industrial Electronics (ISIE) (pp. 727-734). IEEE.

[25] Kamar, D., Ure, N.K. and Ünal, G.B., 2022. GAN-based Intrinsic Exploration for Sample Efficient Reinforcement Learning. In ICAART (2) (pp. 264-272).

[26] Komurcu, K. K., Ince, B., Ok, T., Kilickaya, E., Ure, N. K. (2022). Core Skill Decomposition of Complex Wargames with Reinforcement Learning. In AIAA SCITECH 2022 Forum (p. 2084).

[27] Yikilmaz, C., Ure, N. K. (2022). Deep Learning Based Fault Tolerant Thrust Vector Control. In AIAA SCITECH 2022 Forum (p. 0970).

[28] Sadik, A., Demir, U,. Sever, G., Ure, N. K., Nonlinear Model Based Guidance with Deep Learning Based Target Trajectory Prediction Against Aerial Agile Attack Patterns, American Control Conference (ACC), 2021.

[29] Ozturk, A., Gunel, M. B., Dagdanov, R., Vural, M. E., Yurdakul, F., Dal, M., Ure, N. K. (2021, July). Investigating Value of Curriculum Reinforcement Learning in Autonomous Driving Under Diverse Road and Weather Conditions. In 2021 IEEE Intelligent Vehicles Symposium Workshops (IV Workshops) (pp. 358-363). IEEE.

[30] Ozturk, A., Gunel, M. B., Dal, M., Yavas, M. U., Ure, N. K., Development of a Stochastic Traffic Environment with Generative Time-Series Models for Improving Generalization Capabilities of Autonomous Driving Agents, IEEE Intelligent Vehicles Conference (IV), 2020.

[31] Yavas, M. U., Kumbasar, T., Ure, N. K., Development of a Stochastic Traffic A New Approach for Tactical Decision Making in Lane Changing: Sample Efficient Deep Q Learning with a Safety Feedback Reward , IEEE Intelligent Vehicles Conference (IV), 2020.

[32] Bicer, Y., Alizadeh, A., Ure, N. K., Erdogan, A., Kizilirmak, O., Sample Efficient Interactive End-to-End Deep Learning for Self-Driving Cars with Selective Multi-Class Safe Dataset Aggregation, IEEE International Conference on Intelligent Robots and Systems (IROS), 2019.

[33] Alizadeh, A., Moghadam, M., Bicer, Y., Ure, N. K., Yavas, M. U., Kurtulus, C., Tactical Lane Changing with Deep Reinforcement Learning in Dynamic and Uncertain Traffic Scenarios, IEEE Intelligent Transportation Systems Conference (ITSC), 2019.

[34] Ure N. K., Yavas, M. U., Alizadeh, A., Kurtulus, C., Enhancing Situational Awareness and Performance of Adaptive Cruise Control through Model Predictive Control and Deep Reinforcement Learning, IEEE Intelligent Vehicles Conference (IV), 2019.

[35] Sahin, C., Eroglu, B., Ure, N. K., Kurt, H. B., Deep Recurrent and Convolutional Networks for Robust Fault Tolerant Autonomous Landing Control System Design Under Severe Conditions, AIAA Scitech, 2019.

[36] Bicer, Y., Moghadam, M., Sahin, C., Eroglu, B., Ure, N. K., Vision-based UAV Guidance for Autonomous Landing with Deep Neural Networks, AIAA Scitech, 2019.

[37] Yildiz, A., Ure, N. K., Inalhan, G., Online Algorithm for Optimizing Invariant Conditions for Procedural Nonlinear Constrained Hybrid Systems, American Control Conference, 2018.

[38] Moghadam, M., Ure, N. K., Inalhan, G., Autonomous Execution of Aircraft Supermaneuvers with Switching Nonlinear Backstepping Control, AIAA Science and Technology Forum and Exposition, 2018.

[39] Yildiz, A., Akcal, U. M., Hostas, B., Ure, N. K., Inalhan, G., Finite State Automata Based Approach to Autonomous Stall and Upset Recovery for Agile Aircraft , AIAA Guidance Navigation and Control Conference, AIAA Science and Technology Forum and Exposition, 2018.

[40] Yuksek, B., Ure, N. K., Inalhan, G., Cooperative Interception of a Highly Manoeuvrable Aerial Target, AIAA Guidance Navigation and Control Conference, AIAA Science and Technology Forum and Exposition, 2018.

[41] Akcal, U. M., Hostas, B., Ure, N. K., Inalhan, G., Recoverability Envelope Analysis of Nonlinear Control Laws for Agile Maneuvering Aircraft, AIAA Guidance Navigation and Control Conference, AIAA Science and Technology Forum and Exposition, 2018.

[42] Hasanzade, M., Herekoglu O., Ure, N. K., Koyuncu, E., Yeniceri, R. and Inalhan, G., Localization and Tracking of RF Emitting Targets with Multiple Unmanned Aerial Vehicles in Large Scale Environments with Uncertain Transmitter Power, 2017 International Conference on Unmanned Aircraft Systems (ICUAS), June 13-16, 2017, Miami, FL, USA.

[43] Akcal, U. M., Yuksek. B., Ure, N. K., Modeling and Simulation of Aerobee-150A Sounding Rocket, AIAA Modeling and Simulation Technologies Conference, AIAA Science and Technology Forum and Exposition, 2017.

[44] Tarhan, F. A, Hasanzade, M. Çetin, A., Biçer, Y., Ure, N. K., Koyuncu, E., Yeniçeri, R. İnalhan, G., Kampüs İHA: 4G Şebeke Destekli Kampüs Güvenliği Artırma Projesi, Otomatik Kontrol Türk Milli Komitesi Ulusal Toplantısı (TOK), İstanbul, Türkiye, 2017.

[45] Hasanzade, M., Herekoğlu, Ö., Biçer, Y., Ure, N. K., Koyuncu, E., Yeniçeri, R. İnalhan, G., Belirsiz Verici Gücünde RF Sinyal Yayan Kaynakların İnsansız Hava Araçları ile Geniş Ölçekli Ortamda Konumunun Tespiti, Otomatik Kontrol Türk Milli Komitesi Ulusal Toplantısı (TOK), İstanbul, Türkiye, 2017.

[46] Baspinar, B., Ure, N. K., Koyuncu, E., Inalhan, G., Analysis of delay characteristics of European air traffic through a data-driven airport-centric queuing network model. IFAC-PapersOnLine, 49(3), 359-364, 2016.

[47] Ure, N. K., Inalhan G., Predictive Missile Guidance for Agile Targets with Stochastic Hybrid Dynamics, IEEE Aerospace Conference, Big Sky MT, 2016.

[48] Baspinar, B., Pasaoglu, C., Ure, N. K., Inalhan, G., , Infrastructure Development for Ground-Based Separation Assurance with Optional Automation, ATACCS, 2015.

[49] Ure N. K., Omidshafiei S., Lopez B., Agha-mohammad A., How J. P., Vian J., Online Heterogeneous Multiagent Learning Under Limited Communication with Applications to Forest Fire Management, IROS, Hamburg, Germany, 2015.

[50] Yüksek. B., Üre N. K., Çalışkan F., İnalhan G., "TURAÇ İnsansız Hava Aracı için Arıza Toleranslı Yönelme Açısı Kontrol Sistemi Tasarımı", Otomatik Kontrol Türk Milli Komitesi Ulusal Toplantısı (TOK), Denizli, Türkiye, 2015.

[51] Ure N. K., How J. P., Vian J., Randomized Coordination Discovery for Scalable Multiagent Planning, AAMAS, 2015.

[52] Omidshafiei S., Agha-mohammad A., Chen Y. F., Ure N. K. , How J. P., Vian J., Surati R., Window into Belief Space: A Projection-based Platform for Real-time Visualization and Testing of Planning and Learning Algorithms, AIAA Infotech, 2015.

[53] Agha-mohammadi A., Ure N. K., How. J. P., Vian J., Health Aware Stochastic Planning For Persistent Package Delivery Missions using Quadrotors, IROS, Chicago IL, 2014.

[54] Chen Y. F., Ure N. K., Chowdhary G., How. J. P., Vian J., Planning for Large-Scale Multiagent Problems via Hierarchical Decomposition with Applications to UAV Health Management, In: American Control Conference, Portland OR, 2014.

[55] Amato C., Chowdhary G., Geramifard A., Ure N. K., "Decentralized Control of Partially Observable Markov Decision Processes", The 52nd IEEE Conference on Decision and Control (CDC), 2013.

[56] Ure, N. K., Chowdhary, G., Chen, S., How, J. P., Vian, J., Decentralized Learning based Planning Multiagent Missions in Presence of Actuator Failures In: International Conferences on Unmanned Aircraft Systems, Atlanta GA 2013.

[57] Ure, N. K., Chowdhary, G., How, J. P., Vavrina, M., Vian, J. Health Aware Planning Under Uncertainty for UAV Missions with Heterogeneous Teams In: European Control Conference. 2013.

[58] Ure, N. K., Chowdhary, G., Chen, S., How, J. P., Vian, J., Health-Aware Decentralized Planning and Learning for Large-scale Multiagent Missions In: Conference on Guidance Navigation and Control, Boston MA 2013.

[59] Ure, N. K., Geramifard, A., Chowdhary, G., How, J. P., Adaptive Planning for Markov Decision Processes with Uncertain Transition Models via Incremental Feature Dependency Discovery In: European Conference on Machine Learning, Bristol UK 2012.

[60] Chowdhary, G., Ure, N. K., How, J. P., Kingravi H., Model Reference Adaptive Control using Nonparametric Adaptive Elements In: Conference on Guidance Navigation and Control, Minneapolis MN 2012.

[61] Chowdhary, G., Muhlegg, M., Ure, N. K., Johnson, E., How, J. P., Experimental Results of Concurrent Learning Adaptive Controller In: Conference on Guidance Navigation and Control, Minneapolis MN 2012.

[62] Ure, N. K., Toksoz, T., Chowdhary, G., Redding, J., How, J. P., Vavrina, M., Vian, J., Experimental Demonstration of Multi-Agent Learning and Planning under Uncertainty for Persistent Missions with Automated Battery Management In: Conference on Guidance Navigation and Control, Minneapolis MN 2012. (Best Paper Award)

[63] Redding, J., Ure, N. K., How, J. P., Vavrina, M., Vian, J., Scalable, MDP-based Planning for Multiple, Cooperating Agents In: American Control Conference, Montreal Canada 2012.

[64] Cutler, M., Ure, N. K., Michini, B., How, J. P., Comparison of Fixed and Variable Pitch Actuators for Agile Quadrotors In: Conference on Guidance Navigation and Control, Portland OR 2011.

[65] Redding, J., Toksoz, T., Ure, N. K., How, J. P., Vavrina, M., Vian, J., Persistent Distributed Multi-Agent Missions with Automated Battery Management In: Conference on Guidance Navigation and Control, Portland OR 2011.

[66] Michini, B., Redding, J., Ure, N. K., Cutler, M., How, J. P., , Design and Flight Testing of an Autonomous Variable-Pitch Quadrotor In: International Conference on Robotics and Automation, Shanghai China 2011.

[67] Ure, N. K., Kaya, Y. B., Inalhan G., The development of a Software and Hardware in- the-Loop Test System for ITU-PSAT II nano satellite ADCS In : Aerospace Conference, Big Sky MT 2011.

[68] Ure, N. K., Koyuncu, E., Kurtulus, C., Inalhan G., ITU PSAT II: Attitute Controlled Nano Satellite Platform Developing Project, In : National Conference on Aeronautics and Astronautics, Eskisehir Turkey 2010.

[69] Koyuncu, E., Ure, N. K., Inalhan G., Integration of path/maneuver planning in complex environments for agile maneuvering UCAVs In: Int. Symposium on Unmanned Aerial Vehicles, Reno, Nevada 2009.

[70] Ure, N. K., Inalhan G., Design of a Multi Modal Control Framework for Agile Maneuvering UCAVs In : Aerospace Conference, Big Sky MT 2009.

[71] Ure, N. K., Inalhan G., Feasible Agile Maneuver Identification and Generation Algorithms on Multi Modal Control Framework In : Conference on Guidance Navigation and Control, Chicago IL 2009.

[72] Ure, N. K., Inalhan G., 'Design of Higher Order Sliding Mode Control Laws for Multi Modal Agile Maneuvering UCAVs In : Int. Symposium on Systems and Controls in Aerospace, Shenzen China 2008.

[73] Koyuncu, E., Ure, N. K., Inalhan G., A Probabilistic Algorithm for Mode Based Motion Planning of Agile Air Vehicles in Complex Environments In: Int. Federation of Automatic Control World Congress 2008.

Technical Reports

[74] Guresti, B., Ure, N. K. (2021). Evaluating Generalization and Transfer Capacity of Multi-Agent Reinforcement Learning Across Variable Number of Agents. arXiv preprint arXiv:2111.14177.

[75] Uzun, S. and Ure, N.K., 2020. Decentralized State-Dependent Markov Chain Synthesis for Swarm Guidance. arXiv preprint arXiv:2012.02303.

[76] Uzun, S. and Ure, N.K., 2020. A Probabilistic Guidance Approach to Swarm-to-Swarm Engagement Problem. arXiv preprint arXiv:2012.01928.

[77] Akgun, A., Atik, K., Erdem, M., Kaymaz, M., Yamak, B., Ure, N. K., 2020. Learning How to Trade-Off Safety with Agility Using Deep Covariance Estimation for Perception Driven UAV Motion Planning. arXiv preprint arXiv:2012.06410.

Referee Service

- *IEEE Intelligent Transportation Systems*
- *IEEE Access*
- *IEEE Transactions on Automatic Control*
- *IEEE Transactions on Mechatronics*
- *IEEE Transactions on Aerospace and Electronic Systems*
- *AIAA Journal of Guidance, Dynamics and Control*
- *AIAA Journal of Aerospace Information Systems*
- *Chinese Journal of Aeronautics*
- *Transportation Research Part C*
- *Machine Learning*
- *Neural Information Processing Systems*
- *International Conference on Machine Learning*
- *AIAA Conference on Guidance Navigation and Control*
- *American Control Conference*
- *Conference on Decision and Control*
- *International Conference on Robotics and Automation*

Memberships

Institute for Electrical and Electronics Engineers (IEEE), Member, 2009– Present
- Technical Committee on Intelligent Control (2021–Present)
- IEEE Control Systems Society (2009–Present)

American Institute of Aeronautics and Astronautics (AIAA), Member, 2007– Present

Fundings and Awards

European Commission
- Marie Curie Individual Fellowship Reintegration Grant, 2017-2019.

Boeing Research and Technology
- Faculty fellowship, 2015
- Graduate Research Fellowship, September 2010 - January 2015,

The Scientific and Technological Research Council of Turkey (TUBITAK)
- Graduate Research Fellowship, May 2009- June 2010

AIAA Guidance Navigation and Control Conference
- Best Paper Award, 2012

Istanbul Technical University
- Undergraduate Research Opportunity Program (UROP) Fellowship, August 2006 - June 2008
- Honored by ITU for completing Double Major in 4 years - June 2008
- Aeronautical Engineering Second Best Student Award - June 2008
- Astronautical Engineering Best Student Award - June 2008