

بسمه تعالی

رزومه علمی

مهر 1400



### 1- مشخصات عمومی:

نام و نام خانوادگی: احمد فخاریان

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### 2- تحصیلات:

1-2 دوره پسا دکتری: گروه مهندسی کنترل، دپارتمان مهندسی برق و کامپیوتر، دانشگاه فنی Lulea، کشور سوئد،

1389-1390

- سوپروایزر: پروفیسور توماس گوستافسون

- موضوع: بهینه سازی و کنترل سیستمهای صنعتی پیچیده

2-2 دکترای تخصصی: گروه مهندسی کنترل، دانشکده برق، دانشگاه تربیت مدرس، تهران، ایران، 1382-1388

- استاد راهنما: دکتر محمد تقی حمیدی بهشتی

- موضوع رساله دکتری: کنترل چند هدفه سیستمهای آشفته تکین

3-2 کارشناسی ارشد: گروه مهندسی کنترل، دانشکده برق و کامپیوتر، دانشگاه تهران، تهران، ایران، 1378-1381

- استاد راهنما: دکتر رضا کاظمی

- موضوع تز کارشناسی ارشد: مدلسازی، شبیه سازی و طراحی کنترلگر بهینه غیرخطی برای سیستم تعلیق فعال

خودرو به منظور کنترل حرکت عمودی خودرو

4-2 کارشناسی: گروه مهندسی کنترل، دانشکده برق و کامپیوتر، دانشگاه تهران، تهران، ایران، 1373-1378

- استاد راهنما: دکتر فرشید فروزبخش

- موضوع پروژه کارشناسی: اتوماسیون خط دوم سیمان هرمزگان با استفاده از PLC S-5 شرکت زیمنس

5-2 دیپلم: رشته ریاضی فیزیک، دبیرستان البرز، تهران، ایران، 1369-1373

### 3- حوزه های تحقیقاتی:

- بهینه سازی محدب
- مدلسازی و کنترل ریزشبکه های AC/DC
- کنترل و مدلسازی سیستمهای بیولوژیک
- کنترل مقاوم
- نامساویهای ماتریسی خطی در کنترل
- مدلسازی و کنترل سیستمهای آشفته تکین
- حل عددی معادلات دیفرانسیل غیر خطی
- مدلسازی و کنترل سیستمهای رباتیکی و مکترونیکی
- اتوماسیون صنعتی

### 4- شاخصهای علم سنجی:

- Web of Science ResearcherID: W-1662-2019
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- h-index: 13
- i10-index: 20

### 5- عضویت در مجامع بین المللی:

- IEEE Member (#93780053) - 2015-2021
- IEEE Senior Member (#93780053)-2021-current
- Member of IEEE Control System Society-2015 up to now
- Member of IEEE Power & Energy Society-2021 up to now

### 6- عناوین و جوایز:

- نفر دوم فارغ التحصیلان دوره کارشناسی ارشد دانشکده فنی دانشگاه تهران در رشته برق کنترل با معدل 17/38
- نفر اول آزمون ورودی دکترای رشته برق کنترل دانشگاه تربیت مدرس
- نفر اول فارغ التحصیلان دوره دکترای تخصصی در رشته برق کنترل دانشگاه تربیت مدرس
- برگزیده دوره فوق دکترای یک ساله در دانشگاه Lulea کشور سوئد با اعتبار یک ساله 50000 دلار
- پژوهشگر برتر سال 1390 دانشگاه آزاد اسلامی واحد قزوین
- برنده دوره کوتاه یک ماهه Spring School دانشگاه VUB بروکسل کشور بلژیک در سال 1390
- پژوهشگر برتر سال 1391 دانشگاه آزاد اسلامی واحد قزوین
- نفر دوم پژوهشگران برتر مناطق دانشگاه آزاد اسلامی در رشته های مهندسی در سال 1391
- پژوهشگر برتر سال 1392 دانشگاه آزاد اسلامی واحد قزوین
- پژوهشگر برتر سال 1393 دانشگاه آزاد اسلامی واحد قزوین
- استاد نمونه سال 1396 دانشگاه آزاد اسلامی واحد قزوین
- استاد نمونه سال 1397 دانشگاه آزاد اسلامی واحد قزوین
- پژوهشگر برتر سال 1398 دانشگاه آزاد اسلامی واحد قزوین
- استاد نمونه سال 1399 دانشگاه آزاد اسلامی واحد قزوین

## 7- سوابق کاری دانشگاهی:

- عضو هیات علمی دانشگاه آزاد اسلامی واحد قزوین و دانشیار پایه 20 گروه مهندسی برق از سال 1381 تاکنون و تدریس دروس الف-کارشناسی: کنترل خطی، سیگنال و سیستم، کنترل مدرن، کنترل صنعتی، جبر خطی، کنترل و حفاظت نیروگاه، طراحی به کمک کامپیوتر سیستمهای کنترل، محاسبات عددی، ابزار دقیق ب-کارشناسی ارشد و دکتری: کنترل صنعتی پیشرفته، تئوری تخمین، کاربرد نامساویهای ماتریسی خطی در کنترل، کنترل بهینه، کنترل چندمتغیره، کنترل مقاوم، شناسایی سیستمها، کنترل خودکار پیشرفته، میکاترونیک 1، اتوماسیون صنعتی
- استاد مدعو دانشگاه آزاد اسلامی واحد تهران جنوب، 1391 و تدریس درسهای کارشناسی ارشد شناسایی سیستمها، کنترل مقاوم و کنترل صنعتی پیشرفته
- استاد مدعو دانشگاه آزاد اسلامی واحد الکترونیکی، از سال 1394 تاکنون و تدریس درسهای کارشناسی ارشد و دکتری نظیر کنترل چندمتغیره و اتوماسیون صنعتی
- استاد مدعو دانشگاه شاهد، 1395-1394 و تدریس درسهای کارشناسی ارشد اتوماسیون صنعتی و ابزار دقیق پیشرفته
- استاد مدعو دانشگاه الزهراء، 1396-1394 و تدریس درسهای کارشناسی مدارهای الکتریکی و سیگنالها و سیستمها
- عضو شورای پژوهشی و تحصیلات تکمیلی معاونت علوم، مهندسی و کشاورزی دانشگاه آزاد اسلامی قزوین، از سال 1398 تاکنون
- معاون پژوهش و فناوری دانشگاه آزاد اسلامی واحد قزوین از مهر 1400 تاکنون
- عضو کمیته منتخب دانشگاه آزاد اسلامی واحد قزوین از سال 1399 تاکنون
- مدیر گروه کارشناسی، کارشناسی ارشد و دکتری مهندسی برق دانشگاه آزاد اسلامی واحد قزوین از سال 1398 تا مهر 1400
- مدیر گروه تخصصی مهندسی کنترل جلسات پیش دفاع متمرکز دکتری دانشگاه آزاد اسلامی از سال 1399 تاکنون
- عضو شورای مرکز رشد دانشگاه آزاد اسلامی واحد قزوین از مهرماه 1391 تا سال 1395
- مدیر گروه مهندسی برق کنترل دانشگاه آزاد اسلامی واحد قزوین از سال 1386 تا 1389
- مدیر پژوهشی دانشکده برق و کامپیوتر دانشگاه آزاد اسلامی واحد قزوین از سال 1384 تا 1386
- عضو شورای پژوهشی دانشگاه آزاد اسلامی واحد قزوین از سال 1384 تا 1386
- مدیر گروه مهندسی برق کنترل دانشگاه آزاد اسلامی واحد قزوین از سال 1382 تا 1384
- استاد راهنمای بیش از 100 پروژه کارشناسی، 40 تز کارشناسی ارشد و 6 رساله دکتری
- چاپ بیش از 50 مقاله در مجلات معتبر داخلی و خارجی
- ارائه بیش از 80 مقاله در کنفرانسهای معتبر داخلی و خارجی
- تالیف یک کتاب فارسی در زمینه کنترل و ابزار دقیق و یک فصل کتاب انگلیسی در خصوص سیستمهای آشوبناک و ترجمه یک کتاب در خصوص کاربرد نامساویهای ماتریسی خطی در کنترل
- مدیر داخلی و عضو هیات تحریریه مجله Journal of Computer and Robotics

- عضو هیات تحریریه مجلات زیر:

Artificial Intelligence Advances (AIA), Journal of Artificial Intelligence and Big Data, The Open Electrical & Electronic Engineering Journal (Bentham Open), International Journal of Computer Engineering and Information Technology (IJCEIT), Journal of Modeling and Optimization (JMO), International Journal of Mechanical Engineering and Robotics, Journal of Computer and Robotics, SCIREA Journal of Electrical Engineering, SCIREA Journal of Mathematics, International Journal of Advances in Computer Science and Technology (IJACST), Archives of Industrial Engineering, International Journal of Emerging Trends in Engineering Research (IJETER), Studies of Applied Sciences in Engineering, European Journal of Technique (EJT)

- داور مجلات معتبر داخلی و خارجی به شرح زیر:

IEEE Transactions on Automatic Control (TAC), IEEE Transaction on Industrial Electronics, IEEE Transactions on Cybernetics, IEEE Transactions on Systems, Man, and Cybernetics, IEEE Transactions on Aerospace and Electronic Systems, IEEE/ASME Transactions on Mechatronics, IEEE Transactions on Vehicular Technology, IEEE Access, IEEE Control Systems Letters (L-CSS), CSEE Journal of Power and Energy Systems, IEEE Systems Journal, IEEE Transactions on Medical Robotics and Bionics, IEEE Transactions on Network and Service Management, IEEE Transactions on Multimedia, International Journal of Robust and Nonlinear Control (Wiley), Optimal Control Applications and Methods (Wiley), Information Fusion (Elsevier), Simulation Modelling Practice and Theory (Elsevier), Robotics and Computer-Integrated Manufacturing (Elsevier), IEEE/CAA Journal of Automatica Sinica, Asian Journal of Control, IET Control Theory and Applications, IET Power Electronics, IET Renewable Power Generation, IET Energy Systems Integration, IET Intelligent Transport Systems, IET Generation, Transmission & Distribution, IET Signal Processing, Robotica, IEEE Sensors Journal, International Journal of Control, Journal of Computational Design and Engineering (OXFORD University Press), Cyber-Physical Systems, Transactions of the Canadian Society for Mechanical Engineering, International Journal of Nonlinear Mechanics (Elsevier), Applied Soft Computing (Elsevier), Applied Energy (Elsevier), Journal of Process Control (Elsevier), Sustainable Energy Technologies and Assessments (Elsevier), Energy & Buildings (Elsevier), Journal of Systems and Control Engineering (SAGE), Transactions of the Institute of Measurement and Control (SAGE), Simulation: Transactions of the Society for Modeling and Simulation International (SAGE), International Journal of Electrical Power and Energy Systems (Elsevier), Engineering Science and Technology (Elsevier), Mechanism and Machine Theory (Elsevier), International Transactions on Electrical Energy Systems, Journal of Industrial and Engineering Chemistry (Elsevier), Journal of Manufacturing Systems (Elsevier), Cognitive Computation and Systems (IET), The Journal of Engineering (IET), Electronics Letters (Wiley), International Journal of Control, Automation and Systems (Springer), International Journal of Dynamics and Control (Springer), Journal of Sensors, Computers and Electronics in Agriculture (Elsevier), Advances in Space Research (Elsevier), International Journal for Numerical Methods in Biomedical Engineering (Wiley), Journal of Field Robotics (Wiley), Concurrency and Computation: Practice and Experience (Wiley), Journal of Vibration and Control (SAGE), Journal of Mechanical Engineering Science (SAGE), Robotics and Autonomous Systems (Elsevier), Journal of Computational Science (Elsevier), Advanced

Robotics (Taylor and Francis), Computer Methods in Biomechanics and Biomedical Engineering (Taylor and Francis), Frontiers of Mechanical Engineering (Springer), International Journal of Automation and Computing (Springer), Recent Advances in Electrical & Electronic Engineering, Systems Science and Control Engineering (Taylor and Francis), Mathematical and Computer Modelling of Dynamical Systems (Taylor and Francis), Cybernetics and Systems (Taylor and Francis), Electric Power Components and Systems Journal (Taylor and Francis), Applied Mathematical Modelling (Elsevier), International Journal of Production Research (Taylor and Francis), Geo-spatial Information Science (Taylor and Francis), Journal of Electrical Engineering and Technology (Springer), Heat Transfer (Wiley), Applied Computational Electromagnetic Society (ACES), Journal of Intelligent Systems, Neural Computing & Applications (Springer), Journal of Biomedical Engineering (BME), Journal of Nonlinear Analysis: Hybrid Systems (Elsevier), International Journal of Systems Science, Engineering Science and Technology (Elsevier), Journal of Control and Systems Engineering (JCSE), Complexity, International Journal of Aerospace Engineering (Hindawi) , Journal of Robotics (Hindawi), Applied Bionics and Biomechanics (Hindawi), Journal of Mathematics (Hindawi), Modeling and Simulation in Engineering (Hindawi), Iranian Journal of Science and Technology-Transactions of Electrical Engineering (Springer), Int. J. of Mathematics in Operational Research (Inderscience), Inverse Problems in Science & Engineering (Taylor and Francis ), PLOS ONE, Science China Technological Sciences, Reviews on Advanced Materials Science, Journal of Business and Economic Management, scientific research and Essay, Journal of computer and robotics, World Applied Science Journal, Journal of Operation and Automation in Power Engineering, American Journal of Science and Technology, International Journal of Wireless Communications, Networking and Mobile Computing, Modares Journal of Electrical Engineering, Advances in Mechanical Engineering (SAGE), Journal of Electrical and Computer Engineering (Hindawi), Indonesian Journal of Electrical Engineering and Computer Science, Universal Journal of Electrical and Electronic Engineering, Journal of Control, Iranian Journal of Science and Technology, Amirkabir International Journal of Modeling, Identification, Simulation & Control, Amirkabir International Journal of Electrical & Electronics Engineering, Iranian Journal of Electrical and Electronic Engineering (IJEET), IETE Journal of Research, Iranian Journal of Fuzzy Systems, Tabriz Journal of Electrical Engineering (TJEE), Open Mechanical Engineering Journal, Journal of Optimization in Industrial Engineering, Iranian Journal of Electrical and Computer Engineering (IJECE), International Journal of Industrial Electronics Control and Optimization (IECO), Applied Mathematics (AM), Information Technology Research Journal (ITRJ), Journal of Modeling and Optimization (JMO), Artificial Intelligence Advances (AIA)

- عضو کمیته علمی کنفرانسهای معتبر داخلی و خارجی نظیر:

RIOS2012, RIOS2013, CSAIT2013, MIC-PCM 2013, IFSC2013, CECNET2013, Science and Information Conference (SAI2014), RIOS2014, SAI2015, RIOS2015, SCET 2016, EMSE2015, EETA2015, CMA2016, MICT-2015, ICCIA2016, The 6th joint Conference on Artificial Intelligence & Robotics and the 8th RoboCup Iran Open International Symposium 2016, MOCAS2016, MIC-SigProc 2016, ECME2016, FTC2016, CMA2017, New Research Achievements in Electrical and Computer Engineering 2016, EEEIS2016, ICMAE2016, CACE2016, ICC2016, MDCE2016, SEEE2016, SCET2017, MCE2016, ICOSST2016,

ICEE2017, ESD2017, ISCAM2017, EIA2017, CFIS2017, MOCAS2017, IST2017, The 7th joint Conference on Artificial Intelligence & Robotics and the 9th RoboCup Iran Open International Symposium 2017, ICMME2017, AMMSA2017, MDCE2017, ICNISC2017, ICESEE2017, CNSCE2017, EETA2017, ISMDMA2017, ICMSE2017, MCEBM2017, EAME2017, MSAM2017, AMEE2017, ICCIA2017, ICOSST2017, ICMM2017, ICMES2017, GSKI2017, MOCAS2018, AMS2018, FICC2018, The 8th joint Conference on Artificial Intelligence & Robotics and the 10th RoboCup Iran Open International Symposium 2018, ISMDMA2018, ICMES2018, IENSC2018, CBUIC2018, FTC2018, ISoCC2018, CMC2018, CEMD2018, GSKI2018, ICOSST2018, ICRoM2018, SCET2019, MIC-OPTICAL2019, KAUCEE2018, Future of Information and Communication Conference (FICC) 2019, CVC2019, ISEEIE2018, CHEST2019, 9th conference on artificial intelligence and robotics and the 2nd Asia-Pacific international symposium, MOCAS2019, ICMSMA2019, AMS2019, ITEEE2019, ICRoM2019, ICMES2019, FTC2019, AMS2020, ISEEIE2019, ISMDMA2020, ISoCC2019, MSBDA2019, FICC2020, IENSC2019, DANT2019, SECCE2019, MOCAS2020, Cyber-Physical Systems and Technologies (CPST 2020), MIC-InfoTech 2020, ICISSC2020, SCET2020, ICCECN2020, International Conference and Expo on Applied Science, Engineering and Technology2020, ISoCC2020, ISEEIE2021, ICCIA2020, SECCE2021, MOCAS2021, CEMPE2021, CMC2021, ISEIC2021, ICHVR2021, SCET2022, WCNA2021, PEDSTC2022, CTCM2021, ISMIEE2022, MST2022,

دبیر اجرایی کنفرانس بین المللی کنترل، ابزار دقیق و اتوماسیون (ICCIA2016)

دبیر علمی کنفرانس بین المللی سیستمهای فازی و هوشمند (CFIS2017)

8- مقالات و کتب چاپ شده:

8-1- کتابهای چاپ شده:

#### BOOKS:

- 1- **Ahmad Fakharian**, M. H. Movahedi, M. T. Gankhaki and A. Keshavarz, **Professional Reference of Instrumentation**, 2013, Soha Danesh Publishing Company (in Persian).
- 2- **Ahmad Fakharian** and Reza Shadi, **LMIs in Control Systems: Analysis, Design and Applications**, 2019, Qazvin Islamic Azad University Publishing (translation).

#### BOOK CHAPTER:

- 1- **Ahmad Fakharian**, Morteza Nazari Monfared, Seyedeh Marzieh Hosseini Dolatabadi, Leila Sedghi and Masoud Emam, , **Chaotic Nonlinear Circuits: Definition and Control** in Book Title: **New Research Trends in Nonlinear Circuits: Design, Chaotic Phenomena and Applications**, NOVA Science Publishers, 2014, ISBN: 978-1-63321-408-8.

- 1- **A. Fakharian**, M.T. Hamidi Beheshti, M. Najafi, “*Adomian Decomposition Method Approach for Solving Riccati Differential Equation*”, WSEAS Transactions on Signal Processing, vol. 2, pp. 732-738, 2006.
- 2- **A. Fakharian** and M.T Hamidi Beheshti, “*Solving Linear and Nonlinear Optimal Problem Using Modified Adomian Decomposition Method*”, Journal of Computer and Robotics, vol. 1, pp. 1-8, 2008.
- 3- **A. Fakharian**, M.T. Hamidi Beheshti and A. Davari, “*Solving the Hamilton-Jacobi-Bellman equation Using Adomian Decomposition Method*”, International Journal of Comp. Mathematics, vol. 87, issue 12, pp. 2769-2785, 2010.
- 4- F. Jamshidi, **A. Fakharian** and M. T. Hamidi Beheshti, “*Fuzzy supervisor approach on logic-based switching  $H_2/H_\infty$* ”, Proceedings of the Institution of Mechanical Engineers, Part I: Journal of Systems and Control Engineering, vol. 224, pp. 11-19, 2009.
- 5- **A. Fakharian**, F. Jamshidi and M.T. Hamidi Beheshti, “*Logic Based Switching  $H_2/H_\infty$  Control of Linear Singular Perturbation Systems: A Fuzzy Supervisor Approach*”, Journal of Control, vol. 3, no. 3, pp. 64-72, 2009.
- 6- **A. Fakharian**, F. Jamshidi and T. Hamidi Beheshti, “*Switching  $H_2/H_\infty$  control of singular perturbation systems*”, Australian Journal of Basic and Applied Sciences, vol. 3 (4), pp. 4243-4252, 2009.
- 7- **Ahmad Fakharian**, “*Design of Switching Multi-Objective Controller: A New Approach*”, Journal of Mathematical Problem in Engineering, pp. 1-12, 2011.
- 8- **Ahmad Fakharian** and George Nikolakopoulos, “*A New Approach to the Multi Objective Control of Linear Singular perturbation Systems*”, Journal of Computer and Robotics, vol. 4, no. 1, pp. 33-38, 2011.
- 9- Vahid Azimi, Mohammad Ali Nekoui and **Ahmad Fakharian**, “*Robust Multi-Objective  $H_2/H_\infty$  Tracking Control Based On T-S Fuzzy Model for a Class of Nonlinear Uncertain Drive Systems*”, Proceedings of the Institution of Mechanical Engineers, Part I: Journal of Systems and Control Engineering, pp. 1107-1118, 2012.
- 10- M. Khoeiniha, H. Zarabadipour and **A. Fakharian**, “*Nonlinear Electrical Circuit Oscillator Control Based on Backstepping Method: A Genetic Algorithm Approach*”, Journal of Mathematical Problem in Engineering, Special Issue on Bifurcation and Chaos Theory in Electrical Power Systems: Analysis and Control (BCTE), pp. 1-14, 2012.
- 11- Zinat Asadi and **Ahmad Fakharian**, “*Control of a Hyperchaotic System Via Generalized Backstepping Method*”, Journal of Computer and Robotics, vol. 5, issue 2, pp. 27-32, summer and autumn 2012.

- 12- Fatemeh Tohfeh and **Ahmad Fakharian**, “*Polynomial Optimal Trajectory Planning and Obstacle Avoidance for Omni-directional Mobile Robots in Dynamic Environments*”, Modares Journal of Electrical Engineering, Special Issue on Control, Automation and Instrumentation, vol. 12, no. 3, pp. 13-19, Fall 2012.
- 13- Vahid Azimi, **Ahmad Fakharian** and Mohammad Bagher Menhaj, “*Position and Current Control of an IPMSM by Using Loop-Shaping Methodology: Blending of  $H_\infty$  Mixed-Sensitivity Problem And T-S Fuzzy Model Scheme*”, ASME Journal of Dynamic Systems, Measurement and Control, vol. 135, pp. 051006-1/051006-11, 2013.
- 14- Vahid Azimi, Mohammad Bagher Menhaj and **Ahmad Fakharian**, “*Robust Fuzzy Gain-Scheduled Control of The 3-Phase IPMSM*”, Amirkabir International Journal of Modeling, Identification, Simulation & Control, vol. 45, no. 1, pp. 1-14, spring 2013.
- 15- Arash Sheikhlari, Mehdi Zarghami, **Ahmad Fakharian** and Mohammad Bagher Menhaj, “*Delay Compensation on Fuzzy Trajectory Tracking Control of Omni-Directional Mobile Robots*”, AUT Journal of Electrical Engineering, vol. 45, no. 2, pp. 57-64, Autumn 2013.
- 16- Reza Rahmani and **Ahmad Fakharian**, “*New Control Method of Islanded Microgrid System: A GA & ICA based optimization approach*”, Modares Journal of Electrical Engineering, special issue on power electronics and power systems, vol. 12, issue 4, pp. 43-52, winter 2013.
- 17- Mehdi Golestani and **Ahmad Fakharian**, “*Integral Backstepping Sliding Mode Guidance Law with Finite Time Convergence*”, International Journal of Control and Automation, vol. 7, no. 8, pp. 19-30, 2014.
- 18- Vahid Azimi, Mohammad Bagher Menhaj and **Ahmad Fakharian**, “*Fuzzy Mixed-Sensitivity Control of Uncertain Nonlinear Induction Motor*”, Majlesi Journal of Electrical Engineering, vol. 8, no. 2, pp. 45-53, 2014.
- 19- **Ahmad Fakharian**, Ramtin Mosaferin and Mohammad Bagher Menhaj, “*A New Recurrent Fuzzy Neural Network Controller Design for Speed and Exhaust Temperature of a Gas Turbine Power Plant*”, Amirkabir International Journal of Modeling, Identification, Simulation & Control, vol. 46, no. 2, pp. 23-30, Autumn 2014.
- 20- **Ahmad Fakharian** and Amir Abbasi, “*Design of  $H_\infty$  Congestion Controller for TCP Networks Based on LMI Formulation*”, Journal of Optimization in Industrial Engineering, vol. 17, pp. 51-56, 2015.
- 21- Vahid Azimi, M. B. Menhaj and **Ahmad Fakharian**, “*Tool Position Tracking Control of a Nonlinear Uncertain Flexible Robot Manipulator by Using Robust  $H_2/H_\infty$  Controller via T-S Fuzzy Model*”, SADHANA-Academy proceedings in engineering sciences, vol. 40, pp. 307-333, 2015.
- 22- **Ahmad Fakharian** and Reza Rahmani, “*An Optimal Controlling Approach for Voltage Regulation and Frequency Stabilization in Islanded Microgrid System*”, Journal of Control Engineering and Applied Informatics, vol. 18, no. 4, pp. 107-114, 2016.



- 23- Arash Sheikhlari, **Ahmad Fakharian**, H. Beik-Mohammadi and Aras Adhami Mirhosseini, “*Design and Implementation of Self-Adaptive PD Controller Based on Fuzzy Logic Algorithm for OMNI-Directional Fast Robots in Presence of Model Uncertainties*”, International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, vol. 24, no. 5, pp. 761-780, 2016.
- 24- Naser Azim Mohseni and **Ahmad Fakharian**, “*Direct Optimal Motion Planning for Omni-directional Mobile Robots under Limitation on Velocity and Acceleration*”, Journal of Optimization in Industrial Engineering, vol. 10, issue 22, pp. 93-101, 2017.
- 25- Masoud Emam and **Ahmad Fakharian**, “*Solving Path Following Problem for Car-Like Robot in the Presence of Sliding Effect via LMI Formulation*”, Journal of Computer and Robotics, vol. 10, issue 2, pp. 11-22, 2017.
- 26- Mehran Adibzadeh and **Ahmad Fakharian**, “*Design and Simulation of Adaptive Neuro Fuzzy Inference Based Controller for Chaotic Lorenz System*”, Journal of Computer and Robotics, vol. 11, issue 1, pp. 15-20, 2018.
- 27- Arash Sheikhlari and **Ahmad Fakharian**, “*Online Policy-Iteration based Tracking Control of Four Wheeled Omni-Directional Robots*”, Journal of Dynamic Systems, Measurement and Control, 140(8), pp. 081017-1 - 081017-12, 2018.
- 28- Reza Rahmani and **Ahmad Fakharian**, “*A Distributed Control Architecture for Autonomous operation of a Hybrid AC/DC Microgrid System*”, AUT Journal of Electrical Engineering, vol. 50, no. 1, pp. 25-32, 2018.
- 29- Baharnaz Barikbin and **Ahmad Fakharian**, “*Trajectory Tracking for Quadrotor UAV Transporting a Cable-Suspended Payload in Wind Presence*”, Transactions of the Institute of Measurement and Control, vol. 41, issue 5, pp. 1243-1255, DOI: 10.1177/0142331218774606, 2018.
- 30- Leila Sedghi, Masoud Emam, **Ahmad Fakharian** and Mehdi Savaghebi, “*Decentralized Control of an Islanded Microgrid Based on Offline Model Reference Adaptive Control*”, Journal of Renewable and Sustainable Energy, 2018, pp. 065301-3 - 065301-17, DOI: 10.1063/1.5046803.
- 31- Payam Ghaderi Baban, Mohammad Dosararian Moghadam, Mohammad Bagher Menhaj and **Ahmad Fakharian**, “*An Intelligent Multi Agent System for DC Microgrid Energy Coordination Control*”, Bulletin of the Polish Academy of Sciences: Technical Sciences, vol. 67, no. 4, pp. 741-748, 2019, DOI: 10.24425/bpasts.2019.130183.
- 32- Azita Sharifi Faskhodi and **Ahmad Fakharian**, “*Output Feedback Robust Siding Mode Controller Design for Wind Turbine*”, Journal of Electrical Engineering & Technology, vol. 14, issue 6, pp. 2477–2485, DOI: 10.1007/s42835-019-00223-9, 2019.
- 33- Davood Allahverdy, **Ahmad Fakharian** and Mohammad Bagher Menhaj, “*Back-Stepping Integral Sliding Mode Control with Iterative Learning Control Algorithm for Quadrotor*”

UAVs”, *Journal of Electrical Engineering & Technology*, vol. 14, issue 6, pp. 2539–2547, DOI: 10.1007/s42835-019-00257-z, 2019.

- 34- S. M. Hosseinpoor Moshgani and **Ahmad Fakharian**, “*Fault Detection and Isolation for Manipulator Robot Using Optimal Unknown Input Observer*”, *Control Engineering and Applied Informatics*, vol. 21, no.3, pp. 71-79, 2019.
- 35- Davood Allahverdy and **Ahmad Fakharian**, “*Back-Stepping Controller Design for Altitude subsystem of Hypersonic Missile with ANFIS Algorithm*”, *Journal of Computer and Robotics*, vol. 12, issue 1, pp. 57-64, 2019.
- 36- M. Khajehvand, **A. Fakharian** and M. Sedighizadeh, “*Stochastic Joint Optimal Distributed Generation Scheduling and Distribution Feeder Reconfiguration of Microgrids Considering Uncertainties Modeled by Copula-Based Method*”, *Iranian Journal of Electrical and Electronic Engineering*, vol. 16, no. 3, pp. 371-392, 2020.
- 37- A. Bavarsad, **A. Fakharian**, and M.B. Menhaj, “*Optimal Sliding Mode Controller for an Active Transfemoral Prosthesis Using State-Dependent Riccati Equation Approach*”, *Arabian Journal for Science and Engineering*, vol. 45, no. 8, pp. 6559–6572, DOI:10.1007/s13369-020-04563-x, 2020.
- 38- Morteza Nazari Monfared, **Ahmad Fakharian**, Mohammad bagher Menhaj and Rezvan Abbasi, “*The Application of Power Series Expansion to Optimal Control of an ImmuneOncology Nonlinear Dynamic Problem*”, *Amirkabir International Journal of Modeling, Identification, Simulation & Control*, vol. 52, Issue 1, Winter and Spring 2020, DOI: 10.22060/miscj.2020.17884.5198, 2020.
- 39- Anna Bavarsad, **Ahmad Fakharian** and Mohammad Bagher Menhaj, “*Nonlinear Optimal Control of an Active Transfemoral Prosthesis Using State Dependent Riccati Equation Approach*”, *Amirkabir Journal of Mechanical Engineering*, in press, DOI: 10.22060/MEJ.2020.17815.6668, 2020.
- 40- Neda Nasiri, **Ahmad Fakharian** and Mohammad Bagher Menhaj, “*Observer-Based Robust Control for Flexible-Joint Robot Manipulators: A State-Dependent Riccati Equation-based Approach*”, *Transactions of the Institute of Measurement and Control*, vol. 42, issue 16, pp. 3135-3155, DOI: 10.1177/0142331220941653, 2020.
- 41- Morteza Nazari Monfared, **Ahmad Fakharian**, Mohammad Bagher Menhaj, “*A New Modified Polynomial-Based Optimal Control Design Approach*”, *Proceedings of the Institution of Mechanical Engineers, Part I: Journal of Systems and Control Engineering*, vol. 235, issue 3, pp. 355-370, DOI: 10.1177/0959651820946891, 2021.
- 42- Erfan Shahradsfar and **Ahmad Fakharian**, “*Optimal Controller Design for DC Microgrid Based on State Dependent Riccati Equation (SDRE) Approach*”, *Cyber-Physical Systems (Taylor and Francis)*, vol. 7, no. 1, pp. 41-72, DOI: 10.1080/23335777.2020.1811381, 2021.

- 43- Anna Bavarsad, **Ahmad Fakharian** and Mohammad Bagher Menhaj, “*Nonlinear Observer-Based Optimal Control of an Active Transfemoral Prosthesis*”, Journal of Central South University, vol. 28, issue 1, pp. 140-152, DOI: 10.1007/s11771-021-4592-2, 2020.
- 44- Morteza Nazari Monfared, **Ahmad Fakharian**, Mohammad bagher Menhaj and Rezvan Abbasi, “*Optimal Control of Immunogenic Tumor Cells Population Growth*”, Control Engineering and Applied Informatics, vol. 22, no. 3, pp. 5-12, 2020.
- 45- Anna Bavarsad, **Ahmad Fakharian** and Mohammad Bagher Menhaj, “*A Nonlinear Robust Optimal Controller for an Active Transfemoral Prosthesis: An Estimator-based State-dependent Riccati Equation Approach*”, Proceedings of the Institution of Mechanical Engineers, Part I: Journal of Systems and Control Engineering, vol. 235, issue 3, pp. 313-329, DOI: 10.1177/0959651820959887, 2021.
- 46- **Ahmad Fakharian**, Mostafa Sedighizadeh and Masoud Khajehvand, “*Optimal operation of unbalanced microgrid utilizing copula based stochastic simultaneous unit commitment and distribution feeder reconfiguration approach*”, Arabian Journal for Science and Engineering, vol. 46. issue 2, pp. 1287–1311, DOI: 10.1007/s13369-020-04965-x, 2021.
- 47- Payam Ghaderi Baban, Mohammad Dosararian Moghadam, Mohammad Bagher Menhaj and **Ahmad Fakharian**, “*A Coordinated Performance of Power System Operated with Participants in Demand Response Programs Considering Environmental Pollution Constraints*”, Journal of Electrical Engineering & Technology, vol. 16, issue 1, pp. 15–29, DOI: 10.1007/s42835-020-00563-x, 2021.
- 48- Mehdi Izadi, Seyed Hossein Hosseinian, Shahab Dehghan, **Ahmad Fakharian** and Nima Amjady, “*A Critical Review on Definitions, Indices, and Uncertainty Characterization in Resiliency-Oriented Operation of Power Systems*”, International Transactions on Electrical Energy Systems, vol. 31. issue 1, pp. 1-28, DOI: 10.1002/2050-7038.12680, 2021.
- 49- Masoud Khajehvand, **Ahmad Fakharian** and Mostafa Sedighizadeh, “*A hybrid approach based on IGDT-MOCMA-ES method for optimal operation of smart distribution network under severe un-certainties*”, International Journal of Energy Research, vol. 45, issue 6, pp. 9463-9491, DOI: 10.1002/er.6474, 2021.
- 50- Davood Allahverdy and **Ahmad Fakharian**, “*Active Fault Tolerant Control System for a Swash Mass Helicopter Using Back-Stepping Approach*”, Proceedings of the Institution of Mechanical Engineers, Part I: Journal of Systems and Control Engineering, DOI: <https://doi.org/10.1177/09596518211022903>, 2021.
- 51- Davood Allahverdy, **Ahmad Fakharian** and Mohammad Bagher Menhaj, “*Fault-Tolerant Control of Quadrotor UAVs based on Back-Stepping Integral Sliding Mode Approach and Iterative Learning Algorithm*”, Mathematical Problems in Engineering, vol. 2021, Article ID 9969268, 15 pages, <https://doi.org/10.1155/2021/9969268>, 2021.

- 52- Neda Nasiri, **Ahmad Fakharian** and Mohammad Bagher Menhaj, “*A Novel Controller for Nonlinear Uncertain Systems Using a Combination of SDRE and Function Approximation Technique: Regulation and Tracking of Flexible-Joint Manipulators*”, Journal of the Franklin Institute, vol. 358, issue 10, pp. 5185-5212, DOI: 10.1016/j.jfranklin.2021.04.037, 2021.
- 53- Masoud Khajehvand, **Ahmad Fakharian** and Mostafa Sedighizadeh, “*A risk-averse decision based on IGDT/stochastic approach for smart distribution network operation under extreme uncertainties*”, Applied Soft Computing, vol. 107, pp. 107395-1 – 107395-19, DOI: 10.1016/j.asoc.2021.107395, 2021.
- 54- Tahereh Bagheri Rouch and **Ahmad Fakharian**, “*Robust Control of Islanded DC Microgrid for Voltage Regulation Based on Polytopic Model and Load Sharing*”, Iranian Journal of Science and Technology: Transactions of Electrical Engineering, minor revision, 2021.
- 55- Aida Kamalifar, M. B. Menhaj, Morteza Nazari Monfared and **Ahmad Fakharian**, “*Design of Robust Model Reference Adaptive Controller for a Wider Class of Nonlinear Systems*”, Iranian Journal of Science and Technology: Transactions of Electrical Engineering, DOI: 10.1007/s40998-021-00451-8, 2021.
- 56- Mohammad Hosein Ebrahimi Ebrahimi, Mohammad Bagher Menhaj, Morteza Nazari Monfared, **Ahmad Fakharian**, “*Design of a Free Model Adaptive-Neural Controller for Level and Temperature Control of Liquid Storage Tanks*”, International Journal of Smart Electrical Engineering, accepted, 2021.
- 57- Hamed Fereidouni and **Ahmad Fakharian**, “*Long Term Optimal Control for HIV Treatment Using Spline Functions*”, International Journal of Smart Electrical Engineering, accepted, 2021.

### 3-8- مقالات کنفرانس:

- 1- **Ahmad Fakharian**, M. Farshad and M.J. Yazdan Panah, “*Robust Identification of Nonlinear Systems Using Neural Network Models*”, 9<sup>th</sup> Iranian Conference on Electrical Engineering (ICEE), vol. 3, pp. (31-1)–(31-12), Tehran, Iran, 2001.
- 2- **Ahmad Fakharian**, M.J. Yazdan Panah and R. Kazemi, “*Design of Active Suspension System for Automotive Vertical Motion Control Using Nonlinear Optimal Control with Taylor Approximation*”, 10<sup>th</sup> Iranian Conference on Electrical Engineering (ICEE), vol. 3, pp. 341-348, Tabriz, Iran, 2002.
- 3- **Ahmad Fakharian** and M.J. Yazdan Panah, “*Design of Nonlinear Optimal Controller for Automotive Active Suspension*”, 1<sup>st</sup> Iranian Conference Mechatronics Engineering (ICME), Qazvin, Iran, 2003.
- 4- **Ahmad Fakharian**, M.J. Yazdan panah and A. Akhbardeh, “*Design of a Nonlinear Optimal Controller for Active Suspension System in Order to Vertical Motion Control of*

- Automotive*”, 5<sup>th</sup> International Workshop on Research and Education in Mechatronics (REM2004), pp. 143-147, Kielce-Cedzyna, Poland, 2004.
- 5- A. Akhbardeh, M. Farrokhi and **Ahmad Fakharian**, “*Voluntary and Involuntary Eye Blinks Extraction Using Neuro-Fuzzy Systems and Shift-Invariant Wavelet Transforms for Man-Machine Interaction*”, 5<sup>th</sup> International Workshop on Research and Education in Mechatronics (REM2004), pp. 23-28, Kielce-Cedzyna, Poland, 2004.
  - 6- **Ahmad Fakharian**, M.T. Hamidi Beheshti, M. Najafi, “*A New Algorithm for Solving Riccati Equation Using Adomian Decomposition Method*”, the 9<sup>th</sup> WSEAS International Conference on Applied Mathematics, pp. 74-77, Istanbul, Turkey, 2006.
  - 7- **Ahmad Fakharian**, M.T. Hamidi Beheshti, “*A New Algorithm Based on The Adomian Decomposition method for Solving Riccati Equation in Linear Optimal Control*”, 15<sup>th</sup> Iranian Conference on Electrical Engineering (ICEE2007), Tehran, Iran, 2007.
  - 8- **Ahmad Fakharian** and M.T. Hamidi Beheshti, “*Linear and Nonlinear Optimal Problem Solution Using Modified Adomian Decomposition Method*”, 16<sup>th</sup> Iranian Conference on Electrical Engineering (ICEE2008), Tehran, Iran, 2008.
  - 9- B. Jozi, **Ahmad Fakharian**, M. Nademi and M. Yousefi Azar Khanian, “*Harmonic Opponent Modeling and Behavior Structure for 3D Soccer Simulation Agent*”, 2009 IEEE International Symposium on Computational Intelligence in Robotics and Automation (CIRA2009), pp. 394-397, Daejeon, Korea, 2009.
  - 10- M. Yousefi Azar, **Ahmad Fakharian**, M. Godarzvand Chegini and B. Jozi, “*An Intelligent Fuzzy Controller Based on Genetic Algorithm*”, 2009 IEEE International Symposium on Computational Intelligence in Robotics and Automation (CIRA2009), pp. 486-491, Daejeon, Korea, 2009.
  - 11- **Ahmad Fakharian**, F. Jamshidi and M.T. Hamidi Beheshti, “*Logic Based Switching  $H_2/H_\infty$  Controller Design for Linear Singular Perturbation Systems: A Fuzzy Supervisor Approach*”, 8<sup>th</sup> IEEE International Conference on Control and Automation (ICCA2010), pp. 1311-1315, Xiamen, China, 2010.
  - 12- **Ahmad Fakharian**, F. Jamshidi and M.T. Hamidi Beheshti, “*Logic Based Switching  $H_2/H_\infty$  Controller Design: an Intelligent Supervisor Approach*”, 8<sup>th</sup> IEEE International Conference on Control and Automation (ICCA2010), pp. 446-449, Xiamen, China, 2010.
  - 13- B. Jozi, **Ahmad Fakharian** and A. Karachi, “*Hierarchical Behavior Structure for NAO robot utilizing Fuzzy Inference Systems*”, IEEE international conference on Electrical and Control Engineering (ICECE2010), pp. 3799-3802, Wuhan, China, 2010.
  - 14- **Ahmad Fakharian**, Thomas Gustafsson and M. Mehrfam, “*Adaptive Kalman Filtering Based Navigation: An IMU/GPS Integration Approach*”, the 8th IEEE Conference on Networking, Sensing and Control (ICNSC2011), pp. 181-185, Delft, Netherlands, 2011.

- 15- Ensieh Taghimohammadi, **Ahmad Fakharian** and M. T. Hamidi Beheshti, “*Simulation and assessment of Wireless Fieldbus Networks Over IEEE802.11*”, The 24 IEEE Canadian Conference on Electrical and Computer Engineering (CCECE2011), pp. 1054-1059, Niagara Falls, Ontario, Canada, 2011.
- 16- **Ahmad Fakharian** and Thomas Gustafsson, “*H<sub>2</sub> static state Feedback Control of Linear Singular perturbation systems: A new Approach*”, The 24 IEEE Canadian Conference on Electrical and Computer Engineering (CCECE2011), pp. 1-6, Niagara Falls, Ontario, Canada, 2011.
- 17- **Ahmad Fakharian**, Saman Hosseini and Thomas Gustafsson, “*Precise Hybrid Motion Detection And tracking in Dynamic Background*”, The 19<sup>th</sup> Mediterranean Conference on Control and Automation (MED2011), pp. 1398-1402, Corfu, Greece, 2011.
- 18- **Ahmad Fakharian** and Thomas Gustafsson, “*An Iterative-LMI Based H<sub>2</sub> Control of Singular perturbation Systems*”, The 2011 IEEE Multi-Conference on Systems and Control (MSC2011), pp. 1505-1509, Denver, CO, USA, 2011.
- 19- **Ahmad Fakharian** and Thomas Gustafsson, “*A New Approach on H<sub>∞</sub> Control of Linear Singular Perturbation Systems*”, 9<sup>th</sup> IEEE International Conference on Control and Automation (ICCA2011), pp. 969-973, Santiago, Chile, 2011.
- 20- Mahdi Yousefi Azar khanian and **Ahmad Fakharian**, “*A New Prediction Algorithm to Improve Training The Neural Networks and Its Application in Mobile Robot Control System*”, 9<sup>th</sup> IEEE International Conference on Control and Automation (ICCA2011), pp. 429-433, Santiago, Chile, 2011.
- 21- A. Karambakhsh, M. Yousefi Azar Khanian, M. R. Meybodi and **Ahmad Fakharian**, “*Robot Navigation Algorithm to Wall Following Using Fuzzy Kalman Filter*”, 9<sup>th</sup> IEEE International Conference on Control and Automation (ICCA2011), pp. 440-443, Santiago, Chile, 2011.
- 22- **Ahmad Fakharian** and Saman Hosseini, “*Hybrid Object Detection Using Improved Gaussian Mixture Model*”, 11<sup>th</sup> International Conference on Control, Automation and Systems (ICCAS2011), pp. 1475-1479, Kintex, Gyeonggi-do, Korea, 2011.
- 23- Vahid Azimi, Mohammad Ali Nekoui and **Ahmad Fakharian**, “*Speed and Torque Control of Induction Motor by Using Robust H<sub>∞</sub> Mixed-Sensitivity Problem Via T-S Fuzzy Model*”, ICEE2012, pp. 957-962, Tehran, Iran, 2012.
- 24- **Ahmad Fakharian** and Vahid Azimi, “*Robust Mixed-Sensitivity H<sub>∞</sub> Control for a Class of MIMO Uncertain Nonlinear IPM Synchronous Motor via T-S Fuzzy Model*”, 17<sup>th</sup> International Conference on Methods & Models in Automation & Robotics (MMAR2012), pp. 546-551, Miedzyzdroje, Poland, 2012.
- 25- Vahid Azimi, **Ahmad Fakharian** and Mohammad Bagher Menhaj, “*Robust Mixed-Sensitivity Gain-Scheduled H<sub>∞</sub> Tracking Control of a Nonlinear Time-Varying IPMSM via*

- a T-S Fuzzy Model*”, 13<sup>th</sup> International Workshop on Research and Education in Mechatronics (REM2012), pp. 345-352, Paris, France, 2012.
- 26- Arash Sheikhlari, **Ahmad Fakharian** and A. Adhami Mirhosseini, “*Fuzzy Adaptive PI Control of Omni Directional Mobile Robot*”, IFSC2013, pp. 1-4, Qazvin, Iran, 2013.
  - 27- Farahnaz Javidi, **Ahmad Fakharian** and Mahjabin Sadat Seyedsajadi, “*Fuzzy Integral Backstepping Control Approach in Attitude Stabilization of a Quadrotor UAV*”, IFSC2013, pp. 1-6, Qazvin, Iran, 2013.
  - 28- Ramtin Mosaferin and **Ahmad Fakharian**, “*Fuzzy Control for Rotor Speed of Power Plant Gas Turbine*”, IFSC2013, pp. 1-4, Qazvin, Iran, 2013.
  - 29- Marzieh Hosseini Dolatabadi, M. Nazari Monfared and **Ahmad Fakharian**, “*Robust  $H_\infty$  Control for the pH Neutralization Process based on Fuzzy Models*”, IFSC2013, pp. 1-6, Qazvin, Iran, 2013.
  - 30- Siavash Boroumand, Arya Saboury, Ali Ravari, Mehdi Tale Masouleh and **Ahmad Fakharian**, “*Path Tracking and Obstacle Avoidance of a FPGA-based Mobile Robot (MRTQ) Via Fuzzy Algorithm*”, IFSC2013, pp. 1-5, Qazvin, Iran, 2013.
  - 31- Vahid Azimi, Mohammad Bagher Menhaj and **Ahmad Fakharian**, “*Fuzzy Robust Control of MIMO Nonlinear Uncertain Systems*”, IFSC2013, pp. 1-6, Qazvin, Iran, 2013.
  - 32- Vahid Azimi, Mohammad Bagher Menhaj and **Ahmad Fakharian**, “*Robust  $H_2/H_\infty$  Control for a Robot Manipulator Fuzzy System*”, IFSC2013, pp. 1-6, Qazvin, Iran, 2013.
  - 33- Vahid Azimi, Mohammad Bagher Menhaj and **Ahmad Fakharian**, “*Adaptive Control of A Wind Turbine Based on Neural Networks*”, IFSC2013, pp. 1-6, Qazvin, Iran, 2013.
  - 34- Mahdi Alinaghizadeh Ardestani and **Ahmad Fakharian**, “*Consensus in Multi-Agent Networked Systems using Adaptive Neuro-Fuzzy Inference Systems*”, IFSC2013, pp. 1-5, Qazvin, Iran, 2013.
  - 35- Shima Parsian Mehr, **Ahmad Fakharian** and S. Sepehr Tabatabaei, “*An Experimental LTI Model for Open Loop Nao Navigation*”, IEEE INDICON 2013, Impact of Engineering on Global Sustainability, pp. 1-6, IIT Bombay, Mumbai, India, 2013.
  - 36- Morteza Nazari Monfared, Marzeieh Hosseini Dolatabadi and **Ahmad Fakharian**, “*Nonlinear Optimal Control of Magnetic Levitation System Based on HJB Equation Approximation Solution*”, ICEE2014, pp. 1360-1365, Tehran, Iran, 2014.
  - 37- Mahdi Zarghami, **Ahmad Fakharian**, Amin Ganjali Poudeh and Aras Adhami Mirhosseini, “*Fast and Precise Positioning of Wheeled Omni-Directional Robot with Input Delay Using Model-Based Predictive Control*”, 33th Chinese Control Conference, pp. 7800-7804, Nanjing, China, 2014.
  - 38- Mahdi Zarghami, **Ahmad Fakharian**, Amin Ganjali Poudeh and Aras Adhami Mirhosseini, “*Model-Based Predictive Control of Wheeled Omni-Directional Robots*”

*Considering Nonlinear Dynamical Constraints and Input Delay*”, ICARCV2014, pp. 1379 – 1385, Singapore, 2014.

- 39- Reza Rahmani and **Ahmad Fakharian**, “*A Combination of 3-Phase and D-q Techniques for Controlling the Islanded Microgrid System: New Schemes*”, ICEE2015, pp. 1457 – 1462, Tehran, Iran, 2015.
- 40- Naser Azim Mohseni and **Ahmad Fakharian**, “*Optimal Trajectory Planning for an Omni-Directional Mobile Robot with Static Obstacles: A Polynomial Based Approach*”, AI & Robotics (IRANOPEN), pp. 1-6, Qazvin, Iran, 2015.
- 41- Fatemeh Tohfeh and **Ahmad Fakharian**, “*Polynomial Based Optimal Trajectory Planning and Obstacle Avoidance for an Omni-Directional Robot*”, AI & Robotics (IRANOPEN), pp. 1-6, Qazvin, Iran, 2015.
- 42- **Ahmad Fakharian**, Saeed badr and Mohsen Abdi, “*Implementation of a Frequency FIR Filter as 2D-FIR Filter Based on FPGA*”, AI & Robotics (IRANOPEN), pp. 1-4, Qazvin, Iran, 2015.
- 43- Mohammad Hossein Bamorovat Abadi, Mohammadreza A. Oskoei and **Ahmad Fakharian**, “*Mobile Robot Navigation using Sonar Vision Algorithm applied to Omnidirectional Vision*”, AI & Robotics (IRANOPEN), pp. 1-6, Qazvin, Iran, 2015.
- 44- Farahnaz Javidi, **Ahmad Fakharian**, “*Trajectory tracking via adaptive nonlinear control approach for a quadrotor MAV*”, AI & Robotics (IRANOPEN), pp. 1-7, Qazvin, Iran, 2015.
- 45- Haddadi, S.J., Emamaghali, O., Javidi, F. and **Ahmad Fakharian**, “*Attitude control and trajectory tracking of an autonomous miniature aerial vehicle*”, AI & Robotics (IRANOPEN), pp. 1-6, Qazvin, Iran, 2015.
- 46- **Ahmad Fakharian**, Saeed Badr and Mohsen Abdi, “*Design and Implementation of a Controller with Two-Degrees of Freedom using Neural Networks Based on FPGA*”, ICIEA2015, pp. 280-283, Auckland, New Zealand, 2015.
- 47- Shirin Shahravan Mehr and **Ahmad Fakharian**, “*LQG Controller Based on Fuzzy Logic to Control the Power of Wind Turbine*”, ICIEA2015, pp. 1548-1553, Auckland, New Zealand, 2015.
- 48- Yasamin Keshmiri Esfandabadi and **Ahmad Fakharian**, “*Application of Monte Carlo for Localizing a Mobile Robot using Odometry and Laser Scanner Data*”, 7<sup>th</sup> Iranian Conference on Electrical and Electronics Engineering (ICEEE2015), Gonabad, Iran, 2015.
- 49- Reza Rahmani and **Ahmad Fakharian**, “*A New Control Approach for Islanded Microgrid System Based on Correlative Techniques*”, The 4<sup>th</sup> International Conference on Control, Instrumentation and Automation (ICCIA2016), pp. 339-344, Qazvin, Iran, 2016.
- 50- Mehdi Golestani, Peyman Ahmadi and **Ahmad Fakharian**, “*Fractional Order Sliding Mode Guidance Law: Improving Performance and Robustness*”, The 4<sup>th</sup> International



Conference on Control, Instrumentation and Automation (ICCIA2016), pp. 469-474, Qazvin, Iran, 2016.

- 51- Arash Sheikhlari and **Ahmad Fakharian**, “*Adaptive Optimal Control via Reinforcement Learning for Omni-Directional Wheeled Robots*”, The 4<sup>th</sup> International Conference on Control, Instrumentation and Automation (ICCIA2016), pp. 208-213, Qazvin, Iran, 2016.
- 52- Meisam daneshdoust and **Ahmad Fakharian**, “*Reducing the Navigational Error of a Flying Object in Space by Using an Integration of GPS and INS Data*”, The 4<sup>th</sup> International Conference on Control, Instrumentation and Automation (ICCIA2016), pp. 245-250, Qazvin, Iran, 2016.
- 53- Naser Azim Mohseni and **Ahmad Fakharian**, “*Optimal Trajectory Planning for Omni-directional Mobile Robots using Direct Solution of Optimal Control Problem*”, The 4<sup>th</sup> International Conference on Control, Instrumentation and Automation (ICCIA2016), pp. 172-177, Qazvin, Iran, 2016.
- 54- Hesameddin Mosaffa and **Ahmad Fakharian**, “*Temperature Control of Distillation Column in Hydro-alkylation of toluene: a Supervisory Predictive Control Approach*”, The 4<sup>th</sup> International Conference on Control, Instrumentation and Automation (ICCIA2016), pp. 401-406, Qazvin, Iran, 2016.
- 55- Khatereh Nejadkazemi and **Ahmad Fakharian**, “*Pressure Control in Gas Oil Pipeline: a Supervisory Model Predictive Control Approach*”, The 4<sup>th</sup> International Conference on Control, Instrumentation and Automation (ICCIA2016), pp. 396-400, Qazvin, Iran, 2016.
- 56- A. Farhamfar, M. B. Menhaj and **Ahmad Fakharian**, “ *$H_\infty$  Output Feedback Controller Design for Flexible Needles Guidance*”, the 6th joint Conference on Artificial Intelligence & Robotics and the 8th RoboCup Iran Open International Symposium 2016, pp. 164-169, Qazvin, Iran, 2016.
- 57- Masoud Emam and **Ahmad Fakharian**, “*Path Following of an Omni-Directional Four-Wheeled Mobile Robot*”, the 6th joint Conference on Artificial Intelligence & Robotics and the 8th RoboCup Iran Open International Symposium 2016, pp. 36-41, Qazvin, Iran, 2016.
- 58- Leila Sedghi and **Ahmad Fakharian**, “*Robust Voltage Regulation in Islanded Microgrids: A LMI Based Mixed  $H_2/H_\infty$  Control Approach*”, the 24th Mediterranean Conference on Control and Automation (MED2016), pp. 431-436, Athens, Greece, 2016.
- 59- Masoud Emam and **Ahmad Fakharian**, “*Attitude Tracking of Quadrotor UAV via Mixed  $H_2/H_\infty$  Controller: A LMI based Approach*”, the 24th Mediterranean Conference on Control and Automation (MED2016), pp. 390-395, Athens, Greece, 2016.
- 60- Reza Rahmani and **Ahmad Fakharian**, “*A Novel Method for Connecting the PV unit to Hybrid Microgrid Systems Based on Smart Controlling Structure*”, ICEE2016, Shiraz, Iran, 2016.

- 61- Amir Basati, Mohammad B. Menhaj and **Ahmad Fakharian**, “GA-Based Optimal Droop Control Approach to Improve Voltage Regulation and Equal Power Sharing for Isolated DC Microgrids”, 2016 Electric Power Quality and Supply Reliability Conference (PQ2016), pp. 145-150, Tallinn, Estonia, 2016.
- 62- Shima Parsian Mehr, Seyed Ali Moosavian and **Ahmad Fakharian**, “*An Experimental System Identification Modeling and Robust Control for NAO Humanoid Robot*”, the 4th RSI International Conference on Robotics and Mechatronics (ICROM2016), pp. 506 – 511, Tehran, Iran, 2016.
- 63- Leila Sedghi and **Ahmad Fakharian**, “*Voltage and frequency control of an isolated microgrid through robust control method and fuzzy droop technique*”, 5<sup>th</sup> Iranian Joint Congress on Fuzzy and Intelligent Systems (CFIS2017), pp. 110-115, Qazvin, Iran, 2017.
- 64- Amir Basati, **Ahmad Fakharian** and Josep M. Guerrero, “*An Intelligent Droop Control for Improve Voltage Regulation and Equal Power Sharing in Isolated DC Microgrids*”, 5<sup>th</sup> Iranian Joint Congress on Fuzzy and Intelligent Systems (CFIS2017), pp. 190-195, Qazvin, Iran, 2017.
- 65- Mohammad Hosein Bamorovat Abadi, Mohammadreza Asghari Oskoei and **Ahmad Fakharian**, “*Side Sonar Vision Applied to Omni-directional Images to Navigate Mobile Robots*”, 5<sup>th</sup> Iranian Joint Congress on Fuzzy and Intelligent Systems (CFIS2017), pp. 97-102, Qazvin, Iran, 2017.
- 66- Marzieh Dehghani and **Ahmad Fakharian**, “*Robust Multi-Objective  $H_2/H_\infty$  Output Feedback Controller Design via LMIs in Industrial Boilers*”, ICEE2017, pp. 783-788, Tehran, Iran, 2017.
- 67- Maryam Nazari and **Ahmad Fakharian**, “ *$H_\infty$  Dynamic Output Feedback Controller Design for Industrial Boilers using LMI Technique*”, ICEE2017, pp. 801-806, Tehran, Iran, 2017.
- 68- Reza Rahmani, **Ahmad Fakharian** and J. M. Guerrero, “*An Optimal Power Management System for Automatic Connection of DC and AC Resources of Hybrid-Microgrid Systems*”, 2017 IEEE Second International Conference on DC Microgrids (ICDCM), pp. 181-187, Nurnburg, Germany, 2017.
- 69- Masoud Emam and **Ahmad Fakharian**, “*Robust path following of a car-like robot in the presence of sliding effect based on LMI formulation*”, 2017 Artificial Intelligence and Robotics (IRANOPEN), pp. 121-126, Qazvin, Iran, 2017.
- 70- Fariba Bouzari Liavoli and **Ahmad Fakharian**, “*Nonlinear Optimal Control of Air Handling Unit via State Dependent Riccati Equation Approach*”, The 5<sup>th</sup> International Conference on Control, Instrumentation and Automation (ICCIA2017), pp. 138-143, Shiraz, Iran, 2017.

- 71- Mohammad Vahid Samet Siar and **Ahmad Fakharian**, “*Energy Efficiency in the Robot Arm using Genetic Algorithm*”, 2018 Artificial Intelligence and Robotics (IRANOPEN), pp. 14-20, Qazvin, Iran, DOI: 10.1109/RIOS.2018.8406625, 2018.
- 72- Hengameh Abdollahniya and **Ahmad Fakharian**, “*Design of Active Vibration Control System for Buildings with Time Delay using Mixed  $H_2 / H_\infty$  Approach via Linear Matrix Inequalities Technique*”, 8<sup>th</sup> International Symposium on Acoustics and Vibration (ISAV2018), Tehran, Iran, 2018.
- 73- Azita Sharifi Faskhodi and **Ahmad Fakharian**, “*Disturbance Accommodation Control of Wind Turbines Based on Sliding Mode Approach*”, The 11<sup>th</sup> Mediterranean Conference on Power Generation, Transmission, Distribution and Energy Conversion (MEDPOWER2018), Dubrovnik, Croatia, DOI: 10.1049/cp.2018.1900, 2018.
- 74- K. Kaviani, M.B Menhaj and **A. Fakharian**, “*Mixed  $H_2 / H_\infty$  State-Feedback Control for Islanded DC Microgrids: An LMI Based Approach*”, the 2018 Smart Grid Conference (SGC), Sanandaj, Iran, DOI: 10.1109/SGC.2018.8777886, 2018.
- 75- Davood Allahverdy and **Ahmad Fakharian**, “*Back-Stepping Controller Design for Altitude subsystem of Hypersonic Missile with Takagi-Sugeno Fuzzy Estimator*”, 2018 9th Conference on Artificial Intelligence and Robotics and 2nd Asia-Pacific International Symposium, Kish, Iran, DOI: 10.1109/AIAR.2018.8769762, 2019.
- 76- Fariba Bouzari Liavoli and **Ahmad Fakharian**, “*Sub-Optimal Observer-based Controller Design Using the State Dependent Riccati Equation Approach for Air-Handling Unit*”, the 27th Iranian Conference on Electrical Engineering (ICEE 2019), Yazd, Iran, DOI: 10.1109/IranianCEE.2019.8786630, 2019.
- 77- Davood Allahverdy, **Ahmad Fakharian** and Mohammad Bagher Menhaj, “*Application of PID and Norm Optimal Iterative Learning Control to Swash Mass Helicopter*”, 7<sup>th</sup> international Conference on Control, Instrumentation and Automation (ICCIA2020), DOI: 10.1109/ICCIA52082.2021.9403592, 2020.
- 78- Fariba Bouzari-liavoli, Reza Shadi and **Ahmad Fakharian**, “*Multivariable Nonlinear Model Predictive Controller Design for Air-Handling Unit with Single Zone in Variable Air Volume*”, 7<sup>th</sup> international Conference on Control, Instrumentation and Automation (ICCIA2020), DOI: 10.1109/ICCIA52082.2021.9403555, 2020.
- 79- Reza Shadi, Fariba Bouzari-liavoli and **Ahmad Fakharian**, “*Nonlinear Sub-Optimal Controller for Ebola Virus Disease: State-Dependent Riccati Equation Approach*”, 7<sup>th</sup> international Conference on Control, Instrumentation and Automation (ICCIA2020), DOI: 10.1109/ICCIA52082.2021.9403554, 2020.
- 80- Davood Allahverdy, **Ahmad Fakharian** and Mohammad Bagher Menhaj, “*Back-Stepping Integral Sliding Mode Control with Iterative Learning Control Algorithm for Quadrotor UAV Transporting Cable-Suspended Payload*”, the 29th Iranian Conference on Electrical Engineering (ICEE 2021), Tehran, Iran, accepted, 2021.

#### 4-8- طرح‌های تحقیقاتی انجام شده:

1-4-8- عنوان طرح: بررسی اثر خطوط انتقال توان 20 الی 400 کیلو ولت بر روی خطوط انتقال گاز و تعیین حریم بهینه

- کارفرما: شرکت ملی گاز ایران
- مبلغ قرارداد: 230 میلیون ریال
- سال: 1389

2-4-8- عنوان طرح: طراحی یک ماهواره کوچک CANSAT برای ماموریت‌های مختلف

- کارفرما: دانشگاه آزاد اسلامی واحد قزوین
- مبلغ قرارداد: 150 میلیون ریال
- سال: 1393

3-4-8- عنوان طرح: طراحی یک ماهواره کوچک CANSAT2 برای ماموریت‌های مختلف

- کارفرما: دانشگاه آزاد اسلامی واحد قزوین
- مبلغ قرارداد: 150 میلیون ریال
- سال: 1394

4-4-8- عنوان طرح: استفاده از فیلتر مقاوم برای مساله اجماع در سیستم‌های چندعاملی

- کارفرما: دانشگاه آزاد اسلامی واحد قزوین
- مبلغ قرارداد: 150 میلیون ریال
- سال: 1394

5-4-8- عنوان طرح: طراحی و پیاده سازی آموزش کاربردی کنترل سیستم رباتیک پیشرفته با هدف آموزش مباحث علمی کنترل

پیشرفته Real Time

- کارفرما: دانشگاه آزاد اسلامی واحد قزوین
- مبلغ قرارداد: 180 میلیون ریال
- سال: 1399