RESUME
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EDUCATION:

2001-2002 **Post-Doctoral R&D Fellow**, Nuclear Technology Division, Argonne National Lab-West, USA
Develop control and fault diagnosis solutions for robotics and autonomous systems applicable to nuclear energy and automation systems.

1997-2000 **Doctor of Philosophy (Ph.D.)**, Mechanical Engineering / Control of Discrete-Event Systems (DES)
University of Toronto, Toronto, Canada
Dissertation: Extended Moore Automata for the Supervisory Part-Flow Control of Virtual Manufacturing Workcells using robotic systems to enhance system adaptability and reconfiguration.

1994-1996 **Master of Science (M.Sc.)**, Computer Science / Artificial Intelligence
Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Mexico City Campus
Thesis: Autonomous Navigation of Mobile Robots Using Fuzzy Logic, Graduated with Honors

1992-1993 **Master of Science (M.Sc.)**, Mechanical and Aerospace Engineering
Illinois Institute of Technology, Chicago, IL, USA
Thesis: Neural Network Prediction of the Flowfield over Unsteady Airfoils with applications to unmanned and manned aerial vehicles.

1988-1994 **Bachelor of Engineering (B.Sc.)**, Mechanical Engineering / Design
Universidad Autónoma Metropolitana, Campus Azcapotzalco, Mexico City
Thesis: Design of a novel hydraulic motor for resilient robot manipulators.

AWARDS AND RECOGNITIONS:

2020

- **2020 Falling Walls International Breakthrough of the Year:** chosen by the "Hunter Hub for Entrepreneurial Thinking" nomination to Germany's Falling Walls breakthrough of the year in the category of Engineering and Technology for work in the area of autonomous robotics: "Hybrid unmanned vehicles for operations in helicopter impenetrable environments".
- **Best Paper Award CDSR 2020 Conference:** "*Moving object detection for humanoid navigation in cluttered dynamic indoor environments*" by P. Rath, A. Ramirez-Serrano, and D.K. Pratihar awarded best paper in the 7th International Conference on Control Dynamic systems and Robotics held in Niagara Falls, Canada, November 2020.

2017

- **2017 Schulich School of Engineering Achievement Award:** for outstanding R&D work on robotics and unmanned vehicles as well as for the supervision on successful graduate students and collaborators who have generated the creation of a number of companies (e.g., ComplexSys, 4Front Robotics, RX Robots, etc.).

- **2017 (finalist) UAE Drones for Good award competition:** Selected among more than 1000 entries from around the world.

2016

- **2016 UAE Drones for Good award competition:** Dr. Ramirez-Serrano's developments in deploying UAVs in confines spaces received 2nd place among more than 1017 submissions from 167 countries.

2015

- **2015 "Indra's International Community Award: From Idea to Reality:** Dr. Ramirez-Serrano's groundbreaking UAV developments received 2nd place (most voted proposal) by the Drones for Good Community.

2014

- **2014 ASTech Award Winner:** received the 2014 Award in the category of Applied Technology: Outstanding Achievement in Applied Technology and Innovation, for work over the past 10 years developing game changing UAV technology. The ASTech Awards are Alberta's highest Science and Technology honor.
- **2014 World Innovation Day (3rd place):** In collaboration with UofC's Faculty of Medicine and the AB Children's Hospital developed artificial Intelligence human-robot cooperation software tools implemented on a small humanoid robot to distract children undergoing diverse medical procedures to reduce their distress (pain and anxiety).
- **2014 Price of Excellence World Innovation Competition:** Innovation for Health Competition showcasing innovative work in the use of humanoid robotics for pediatric care and clinical trial results within clinics and children's hospitals.

2013

- **2013 Service Excellence Award:** The University of Calgary, The Schulich School of Engineering for outstanding performance in supporting the school in diverse events and activities as director of the graduate program within the department of Mechanical Engineering.

2012

- **2012 National Aviation and Space Museum:** Our work in the area of highly maneuverable UAVs was selected among all R&D work in the area of UAV and aviation across Canada to be featured at the National Aviation and Space Museum in Ottawa (May-Nov 2012).

1994-2011

- **2011 Graduate Educator Award:** The University of Calgary, The Schulich School of Engineering
- **2010-2011 Graduate Educator Award:** Univ. of Calgary for work conducted in supervising and guiding graduate students within the department of Mechanical and Manufacturing Engineering.
- **2007-2008 Teaching Excellent award in Mechanical Engineering:** Univ. of Calgary for work in supervising students in courses as well as developmental research projects at the undergraduate and graduate levels.
- **2001 King-Sun Fu Memorial Best Transactions Paper Award Nomination:** Ramirez-Serrano, Sriskandarajah and Benhabib, "Automata-Based Modeling and Control Synthesis for Manufacturing Workcells with Part-Routing Flexibility", *IEEE Trans. Robotics & Automation*, V.16, No.6, pp.807-823, Dec. 2000.
- **1998-2000 National Council for Science and Technology of Mexico Scholarship:** National award provided to conduct R&D work in the area of Mechanical and Industrial Engineering.
- **1997-2000 University of Toronto International Student Award:** Outstanding research yearly award to conduct research in robotics and flexible manufacturing
- **1997-1998 University of Toronto Open Doctoral Fellowship:** Entrance PhD research award.
- **1996 IEEE-Mexico Diploma and Recognition:** 1st National Micro-Robotics Rover Contest demonstrating novel navigation and control of mobile ground vehicles in unstructured environments.
- **1994-1996 ITESM Fellowship:** Award to conduct research and development in robots in the computer science department, Mexico City campus.

EMPLOYMENT HISTORY:

2013 (April)-present **Professor (tenure)**, Dept. of Mechanical Eng., **University of Calgary**, Canada

- Perform Research and Development activities in design and control methods for unmanned vehicle systems (UVS) and their application in Urban Search & Rescue (USAR), and security applications.
- Contribute to the overall teaching and research missions of the department in the areas of Artificial Intelligence, control of robotic systems.

2016 -present **Advisory Board member**, **Genesis Robotics**.

- Perform advisory functions in making scientific and technical contributions to the development of a revolutionary new robotic actuator (Live Drive) system.

2012 (Aug)-present **Founder and CEO**, **4Front Robotics Ltd**.

- Perform company related activities in Research, Development, sales and agreements & contracts related to UVS for complex and confined GPS denied environments.

2010(July)-2014 (Oct) **Director of the Graduate Program**, Dept. of Mechanical Eng**. Univ. of Calgary**, Canada

2007-2013(March) **Associate Professor (Tenure)**, Dept of Mech. Eng., **University of Calgary**, Canada

- Perform R&D activities in control methods for mobile robot teams and their application to USAR and security applications for infrastructure security.
- Contribute to the overall teaching and research missions in the areas of Artificial Intelligence, Control of novel robotic and manufacturing systems.

2007(June)-Dec. 2011 **Director/Board member Canadian Centre for Unmanned Vehicle Systems (CCUVS)**

2006(Jan)-2010(June) **Director Manufacturing Eng. Program**, Dept. of Mech. Eng., **Univ. of Calgary**, Canada

2002-2007 **Assistant Professor (Tenure Track)**, Department of Mech. Eng., **University of Calgary**, Canada

- Perform Research and Development activities in novel control methods for UVS and reconfigurable manufacturing workcells.

2001-2002 **Post-Doctoral R&D Fellow**, Nuclear Technology Division, **Argonne Natl. Laboratory-West**, USA

- Developed novel control and fault diagnosis solutions for Discrete Event Systems (DES) applicable to nuclear energy and autonomous systems
- Developed algorithms of polynomial complexity for testing diagnosability of DES.

2000-2003 **Development Engineer**, Mechatronics and Software Systems, **ABB Corporate Research**, Sweden

- Conceptualize and execute experimental intelligent software programs and analytical control methodologies for autonomous automation systems.
- Develop software tools using Java processors within the area of "User interface for industrial automation applications".
- Project leader within the DES Virtual Factory project performing system design and analysis tasks for the development of virtual manufacturing systems.

1997-2000 **Research Assistant**, Computer Integrated Manufacturing Laboratory, **University of Toronto**, Canada

- Supervised research associates and students in DES control.
- Developed novel approaches for the control of flexible manufacturing systems.
- Implemented algorithms for control using high level languages.
- CIMLab manager: Maintained computer network, Purchased software/hardware

1998-2000 **Teaching Assistant**, Dept. of Mechanical and Industrial Engineering, **University of Toronto**, Canada

- Tutored undergraduate and graduate students in manufacturing and control courses.

- Administered and graded assignments, quizzes, and exams

1994-1996 **Associate Professor**, Computer Science Department, **ITESM - Mexico City campus**, Mexico
- Established collaborative research projects with the University of Texas, NSF, and CONACyT.
- Developed novel fuzzy logic navigational systems for mobile robots and dexterous manipulators.

1994 **Assistant Professor**, Mechanical Engineering Department, **Univ. Autonoma Metropolitana**, Mexico
- Contributed to the overall undergraduate teaching and research activities of the Department.

1993 **Research Assistant**, Dept. of Mechanical and Aerospace Eng., **Illinois Institute of Technology**, Chicago, IL, USA
- Designed neural network architectures to predict and control the flowfield over unsteady airfoils for their application in combat aircrafts.

1991-1992 / summer 1993 **Research and Teaching Assistant**, Department of Energy, **Univ. Autonoma Metropolitana**, Mexico
- Managed hardware and software equipment in the computer laboratory.
- Performed advisory duties in the use/purchase of computer hardware/software for research projects.
- Designed and constructed/implemented direct drive industrial robot arms.

1991-1992 **Research Fellow**, R&D **Center for Alternative Energy Sources** (CIEDAC), Mexico
- Developed and tested solar energy equipment.
- Conducted assessment (analytical and experimental) of novel solar panels.
- Gathered and analyzed field data regarding solar energy.

EXAMPLE OF OTHER PROFESSIONAL ACTIVITIES:

2012 **Founder and CEO**: 4Front Robotics.
2009-2011 **Member** of the Technical Program Committee for ICAS 2010 and 2011.
2007 **P.Eng. APEGA:** Professional Engineer status in Alberta (Sept. 11, 2007 – present)
2006 **Member-board of directors:** Canadian Centre for Unmanned Vehicle Systems (Jan. 2006 – 2011)
2005-2007 **Secretary**: IEEE Southern Alberta Section (January 2005 – Dec 2007)
2004-2011 **Founder and Director** Autonomous Reconfigurable/Robotic Systems Laboratory - Univ. of Calgary. The AR^{2}S-Lab performs R&D work in the area of unmanned vehicle systems.
2003 **Founder Member and Group Leader**, DES (discrete event systems) R&D - Univ. of Calgary, performing R&D work towards on discrete event systems applied to intelligent reconfigurable systems.
2003 **Member of the Intl Program Committee**, Robotics and Applications Intl Conf., Salzburg, Austria.
2003 **Member of the Intl Program Committee**, Neural Networks & Computational Intelligence, Mexico.
2003 **Session Chair**, 19th Canadian Congress on Applied Mechanics, Calgary, Alberta, June 1-5, 2003
2002-2003 **Member of the Intl Program Committee**, Information and Knowledge Sharing Intl Conf., USA.
2000-2002 **Member of the Intl Program Committee**, IASTED Intl Conf. on Control and Applications.
1999 **Volunteer**, IEEE Intl Conf. on Robotics and Automation, Assistant manuf. control session organizer.
1999 **Session Chair**, Intl Symp. on Computational Intelligence in Robotics and Automation, Monterey, CA.
1998 **Session Chair and Referee**, 4th World Congress on Expert Systems, Mexico City, December 1998.

ADDITIONAL SKILLS:

Engineering:
- Computer Integrated Manufacturing, Robot and CNC Programming, Manufacturing Process Control, Programmable Logic Controllers, Mobile Swarm Robotics

Computing:
- **Programming**: C, C++, HTML, Python, PLC Ladder Logic, Java, Pascal

- **Engineering software**: Mathematica, Matlab, MathCAD, Orcad, I-DEAS, LabView, V-Rep
- **Operating systems**: Windows, DOS, UNIX, Macintosh Systems, Sun O/S, and ROS
- **Design software**: Solidworks, AutoCAD, ANSYS
- **Work software**: Microsoft Word, Microsoft Excel, Power Point

Languages:

- Fluent in Spanish and English
- Basic knowledge of Swedish

Interpersonal:

- Excellent problem solving and analytical skills and strong written and oral communication skills
- Strong management and leadership skills

PROFESSIONAL MEMBERSHIPS:

- **Member**: Institute of Electrical and Electronics Engineers (IEEE)
- **Member**: IEEE Robotics and Automation Society
- **Member**: IEEE Systems, Man and Cybernetics
- **Secretary**: IEEE Southern Alberta Section (2005)
- **Founder**: Asociación Metropolitana de Estudiantes de Ingenieria Mecánica (AMEIM)
- **Member**: Association for Unmanned Vehicle Systems International (AUVSI)
- **Member**: Unmanned Vehicle Systems Canada (UVS-Canada)

ACTIVITIES AND INTERESTS:

Road cycling, weightlifting, swimming, traveling and amateur astronomy

SUPERVISED GRADUATE STUDENTS (last 10 years):

(number in parenthesis indicate current graduate students under my supervision**):**

Post-doc-fellows: 4 (1) *PhD: 10 (8)* *MSc: 32 (5)* *BSc:* 28 (3)

FOUNDED START-UP COMPANIES:

(by graduate students & collaborators based on our R&D work**)**

4Front Robotics Ltd.: Develops highly maneuverable unmanned vehicles and robot navigation systems for complex confined spaces. www.4frontrobotics.com

ComplexSys: Provides engineering services and turn-key solutions to develop autonomous systems with R&D mechanical, electrical and software solutions. www.complexsys.ca

RXrobots: Provides humanoid robots for pediatric care using developed distraction mechanisms and human-robot interaction architectures. http://www.rxrobots.com

Cubit Engineering Inc.: Provides R&D engineering services and robotic engineering applied to oil and gas systems, inspection, maintenance, and repairs. https://cubitengcom.wordpress.com/

TOTAL RESEARCH GRANTS OBTAINED: **(in the last 6 years): ~$7,500,000 CDN:**

Examples of recent R&D grants received:

NSERC Alliance grant (CEMA and CANTF 2)	(2021-2026)	$500,000
AI-NSERC Alliance	(2021-2022)	$300,000
Engage grants (4 separate grants):	(2013-2018)	$100,000
NSERC Discovery Grant:	(2021-2025)	$145,000

SSE Core Research Equipment Initiative:	(2016)	$164,424
Near Earth Space Technologies (NEST) program:	(2017-2020)	$200,000
NSERC Create program (co-*PI*)	(2017-2024)	$1,650,000
Research Tools and Instruments:	(2017)	$150,000
NSERC CRD with Atlantis (co-*PI*)	(2019-2023)	$5,000,000
Shastri Indo-Canadian Institute:	(2019-2020)	$20,000

PUBLICATIONS:

	Publications Count (1995-2021)	Citation Count (2011-2021)
Refereed Journal Articles	58 (7 submitted)	805
Refereed Conference Articles	115 (3 submitted)	1324
Books and Book Chapters	5 (1 submitted)	32
Magazine Articles	4	13
Total	**182 (11)**	**2174**

Citation count based on Google Scholar, Research Gate, and Academia.edu.

Journal Papers:

J1. H. Rong, Y. Gao, L. Guan **A. Ramirez-Serrano**, X. Xu, and Y. Zhu, "Point0Line Visual Stereo SLAM Using EDlines and PL-BoW", *IEEE Sensors*, September 2021.

J2. P. Segura Parra, O. Lobato-Calleros, **A. Ramirez-Serrano**, and I. Soria, "Human-Robot Collaborative Systems: Structural Components for Current Manufacturing Applications", *Elsevier Journal Advances in Industrial and Manufacturing Engineering*, September 2021 (https://doi.org/10.1016/j.aime.2021.100060)

J3. Dalman B., Korobenko A., Ziade P., **Ramirez-Serrano, A.**, and Johansen, C., "Design Limitations on Small-Scale Supersonic UAV", *Elsevier's Journal of Acta Astronautica*, XXXX, 2021 (Submitted June 2021)

J4. P. Gupta, S. Shah, D. K. Pratihar, and **A. Ramirez-Serrano**, "Kinematics and Dynamic Analysis of a Life-Size 29 DOF Humanoid Robot", One Science Direct Journal, (Under preparation, April 2021).

J5. **Staples M., Ramirez-Serrano A**., Hugenholtz C., Barchyn T. and Gao M., "A Comparison of Multiple Odor Source Localization Algorithms", *Journal of Sensors* (Submitted Oct. 2021)

J6. **A. Ramirez-Serrano**, and H. Rong, "Boosting SLAM for autonomous underwater robots used in restricted spaces via visual object removal", *MDPI Journal of Sensors*, (Submitted Jan 2021).

J7. **Ramirez-Serrano A**., and Moghaddasi S., "Real-time Collision Detection Algorithm for high DOF multi-limbed legged mobile manipulators", *Journal of Machine Intelligence and Data Science* (Under review)

J8. Rath P.K., **Ramirez-Serrano A.**, and Pratihar, K.D., "Moving object detection for multi-legged robots locomoting in cluttered unstructured dynamic environments using a confidence tracking approach", *Journal of Machine Intelligence and Data Science* (Under review)

J9. **A. Ramirez-Serrano**, "Symbiotic Human-Robot Collaboration for Multidisciplinary Human-Autonomy Teaming During and After COVID-19", *Journal of Frontiers in Robotics and AI - Biomedical Robotics* (Under review).

J10. P. Segura Parra, O. Lobato-Calleros, **A. Ramirez-Serrano**, and I. Soria, "Human-Robot Collaborative Systems: Current Applications and Components in the Manufacturing Industry", *Journal of Robotics and Computer-Integrated Manufacturing* (Submitted).

J11. P. Segura Parra, O. Lobato-Calleros, **A. Ramirez-Serrano**, and I. Soria, "Human-Robot Collaboration Systems: Structural Components for Curent Manufacturing Applications", *Journal of Advances in Industrial Manufacturing Engineering*, May 2021 (Submitted).

J12. Dalman, B. Johansen, C., **Ramirez-Serrano, A.**, and Korobenko, A., "Multidisciplinary design optimization of a small-scale supersonic, unmanned aerial vehicles", *Aerospace Science & Technology*, August 2020.

J13. H. Rong, **A. Ramirez-Serrano**, and X. Cong, "Image Object Extraction Based on Semantic Detection and Improved K-means Algorithm", *IEEE Access*, September 2020.

J14. Rath P.K., **Ramirez-Serrano A.**, and Pratihar, K.D., "Real-time moving object detection and removal from 3D pointcloud data for humanoid navigation in dense GPS-denied environments", *International Journal of Engineering reports*, September 2020.

J15. Kamal A., and **Ramirez-Serrano A.**, "Comprehensive approach for transitional VTOL aircraft point-performance and mission-performance analysis", *J. of Aerospace Science & Technology*, (To be Submitted).

J16. Ospina D., and **Ramirez-Serrano A.**, "Sensor-less In-hand manipulation by an under-actuated robot hand", *ASME Journal of Mechanisms and Robotics*, February 2020. (Paper: **JMR-19-1326**).

J17. Kamal A., and **Ramirez-Serrano A.**, "Generalized Sizing Methodology for Hybrid Aircraft using Integrated Performance Constraints", AIAA *Journal of Aircraft*, July 29, 2019.

J18. Kamal A., and **Ramirez-Serrano A.**, "An Integrated Methodology for Aircraft Concept Development with Application to Transitional Aircraft", AIAA *Journal of Aircraft*, June 2019.

J19. Gress, G., and **Ramirez-Serrano, A.**, "Enabling passive hover stability in bicopters using lift-propeller gyroscopic properties", *Journal of American Institute of Aeronautics and Astronautics* (AIAA), Vol. XX, No. YY, Year 2017, pp. ZZ-ZZ, (Under review).

J20. Kamal A., and **Ramirez-Serrano A.**, "Design methodology for hybrid (VTOL+Fixed wing) unmanned aerial vehicles", *Aeronautics and Aerospace Open Access Journal*, 2018, 2(3), pp. 165-176.

J21. Wilson G., **Ramirez-Serrano A.**, and Sun Q., "Geometric Based Tire Vertical Force Estimation and Stiffness Parameterization for Automotive and Unmanned Vehicle Applications", *Journal of Vehicle System Dynamics*, 2016. Mmanuscript ID is NVSD-2016-0199.R2.

J22. Bagheri, P., **Ramirez-Serrano, A.**, and Pieper, J.K., "*Adaptive Nonlinear Robust Control of a Novel Unconventional Unmanned Aerial Vehicle*", J. of Control and Intelligent Systems, Vol. 43, No. 1, 2015.

J23. Wilson G., and **Ramirez-Serrano A.**, "Terrain Roughness Identification for High-Speed UGVs", *Intl Journal of Automation and Control Research*, V.1, Year 2014, pp. 11-21.

J24. Ning X., Yuan J., Yue X., and **Ramirez-Serrano A.**, "Induced generalized Choquet aggregating operators with linguistic information and their application to multiple attribute decision making based on the intelligent computing", *Intl Journal of Intelligent and Fuzzy Systems*, vol. 27, no. 3, 2014, pp. 1077-1085, 2014

J25. Ning X., Yalan W., Yuan J., and **Ramirez-Serrano A.**, "Designing advanced structural composites based on mechanical performances analysis of the variable topology spacecrafts", *Intl Journal of Polymer Composites*, vol. 35, no. 10, 2014.

J26. Wilson G., and **Ramirez-Serrano A.**, "Speed Selection based on Terrain Interaction Force Prediction for UGVs in Rough Unknown Terrain", *Intl Journal of Field Robotics*.

J27. Jansen, F., and **Ramirez-Serrano, A.**, "Extended MPC Strategy for Manoeuvring Unmanned Vehicles in Restricted 3D Environments", *Canadian Aeronautics and Space Journal (CASJ).*

J28. Jansen, F., and **Ramirez-Serrano, A.**, "Extended MPC Strategy for Manoeuvring Unmanned Vehicles in Restricted 3D Environments", *International Journal of Navigation and Observation.*

J29. Beran, T.N., and **Ramirez-Serrano, A.**, "Child Meets Robot: Applications of Humanoid Robotics in a Physiotherapy Environment with Young Patients", *Physiotherapy Canada, special edition use of technology for pain*, 2012.

J30. Beran, T.N., **Ramirez-Serrano, A.**, Susan M. Kuhnm S.M., and Vanderkooi, O., "Humanoid Robotics in Health Care: An exploration of children's and parents' emotional reactions", *Journal of Health Physchology*, October18, 2013.

J31. Beran, T.N., **Ramirez-Serrano, A.**, Susan M. Kuhn S.M., and Vanderkooi, O., "Reducing Children's pain and distress towards Flu Vaccinations: A Novel and effective application use of Humanoid Robotics", *Vaccine Journal*, Elsevier, No. 31, pp.2772-2777, April 2013.

J32. M. Kuhlmann, E.C. Fear, **A. Ramirez-Serrano**, and S. Federico, "Mechanical Model of the Breast for the Prediction of Deformation during Imaging", J. of Medical Engineering and Physics, V.35, pp. 470-478, 2013.

J33. El-Kabbany A.S. and **Ramirez-Serrano A.**, "Effect of number of wheels on high speed UGV traversability: Online terrain assessment approach", *Int. J. of Automotive technology (IJAT)*, Vol. 14, No. 2, pp. 249-257, April 2013.

J34. Beran, T.N., **Ramirez-Serrano, A.**, Kuhn S.M., and Vanderkooi, O., "Robotics in health care: Reducing child distress during flu vaccinations", *Paediatrics and Chile Health*, Vol.17, pp. 28A. June/July 2012.

J35. Amiri N., **Ramirez-Serrano A.** and Davies R., "Integral Backstepping Control of an Unconventional Dual-Fan Unmanned Aerial Vehicle", *J. of Intelligent and Robotic Systems*, 2012.

J36. Liu, C, **Ramirez-Serrano, A.** and Yin, G., "An optimum design selection approach for product customization development", *J. of Intelligent Manufacturing*, Vol.23, Issue 4, pp. 1433-1443, 2012.

J37. C. Coza, C. Nicol, C.J.B. Macnab, and **A. Ramirez-Serrano**, "Adaptive Fuzzy Control for a Quadrotor helicopter Robust to Wind Buffeting", *J. of Intelligent and Fuzzy Systems*, Vol.22, pp. 267-283, 2011.

J38. Hosseini Z., **Ramirez-Serrano A.** and Martinuzzi R.J., "Ground/Wall Effects on a Tilting Ducted Fan" *Int. J. of Micro Air Vehicles*, Vol. 3, No. 3, Sept 2011.

J39. Beran T.; **Ramirez-Serrano A.**; Kuzyk R.; Fior M.; and Nugent S., "Understanding how Children Understand Robots: Animism in the 21st Century", *Intl Journal of Human-Computer Studies (IJHCS)*, V.69, Issue 7-8, pp. 539-550, June 2011.

J40. C. Nicol, C.J.B. Macnab, **A. Ramirez-Serrano**, "Robust Adaptive Control of a Quadrotor Helicopter", *IFAC Journal of Mechatronics*, Vol 21, No. 6, pp. 927-938, September 2011.

J41. Fior, M., Nugent, S., Beran, T.N., **Ramirez-Serrano, A.**, and Kuzyk, R., "Children's Relationships with Robots: Robot is Child's New Friend", *Journal of Physical agents*, Vol. 4, No. 3, pp. 9-17, Sept. 2010.

J42. Beran, T.N., **Ramirez-Serrano, A.**, Kuzyk, R., Nugent, S. and Fior, M., "Would Children Help a Robot in Need?", *International Journal of Social Robotics*, Vol. 3, No. 1, pp. 83-92, 2011.

J43. El-Kabbany A.S. and **Ramirez-Serrano A.**, "Terrain Roughness Assessment for High Speed UGV Navigation in Unknown Heterogeneous Terrains", *Intl J. on Information Acquisition*, Vol. 7, No. 2, pp. 165-176, 2010.

J44. El-Kabbany, A.S., Davies, K.A., **Ramirez-Serrano, A.**, **"**Terrain Assessment for High Speed USAR Reconfigurable Robots", *J. of Advanced Robotics: Special Issue on Disaster Response Robotics*, Vol. 23, No. 9, July 2009.

J45. Liu, C, **Ramirez-Serrano, A.** and Yin, G., "Customer-driven Product Design and Evaluation Method for Collaborative Design Environments", *J. of Intelligent Manufacturing*, Vol. 22, Issue 5, pp. 751-764, 2011.

J46. Hubert Liu, **Alejandro Ramirez-Serrano** and Giovanni Cosimo Pettinaro, "Mobile Robot Localization in Quasi-Dynamic Environments", *Journal of Industrial Robot*, Vol. 35, Issue 3, pp. 246-258, 2008.

J47. G.C. Pettinaro and **A. Ramirez-Serrano**, "Design and Control of a Portable VTOL System for Indoor Reconnaissance Tasks", *Journal of Intelligent and Robotic Systems*.

J48. C. Coza, C.J.B. Macnab, and **A. Ramirez-Serrano**, "An Adaptive-Fuzzy Control for a Quadrotor Helicopter Robust to Wind Buffeting", *The International Journal of Robotics Research.*

J49. H. Liu, **A. Ramirez-Serrano** and G.C. Pettinaro, "A Probabilistic Framework for Robot Self Localization in Quasi-Dynamic Environments", *IEEE Transactions on Systems, Man and Cybernetics - Part A (Humans and Systems)*.

J50. S. Zho, **A. Ramirez-Serrano** and R. W. Brennan, "Cooperative Multi-Agent Reconfigurable Manufacturing Environments", *International Journal of Manufacturing Technology and Management*, Special issue on "Intelligent Industrial Automation", 2005.

J51. Scott Olsen, James Wang, **Alejandro Ramirez-Serrano**, and Robert W. Brennan, "Contingencies-based Reconfiguration of Distributed Factory Automation", Elsevier *International Journal of Robotics and Computer Integrated Manufacturing* (RCIM), Special issue Flexible Automation and Intelligent Manufacturing Edited by L. Wang, F., Vol./Issue 21/4-5, pp. 379-390. 2005.

J52. **Ramirez-Serrano A.** and Benhabib B., "Supervisory Control of Functionally Expandable Flexible-Manufacturing Workcells", *International Journal of Flexible Manufacturing Systems*, Vol. 15, No. 3, pp. 241-272, July 2003.

J53. **Ramirez-Serrano A.** and B. Benhabib, "Supervisory Control of Reconfigurable Flexible-Manufacturing Workcells – Temporary Addition of Resources", *International Journal of Computer Integrated Manufacturing*, Vol. 16, No. 2, pp. 93-111 March 2003.

J54. **A. Ramirez-Serrano**, S.C. Zhu, S.K.H. Chan, S.S.W. Chan, M. Ficocelli and B. Benhabib, "A Hybrid PC/PLC Architecture for Manufacturing-System Control - Theory and Implementation", *Journal of Intelligent Manufacturing*, Vol. 13, No. 4, pp. 261-281, August 2002.

J55. **Ramirez-Serrano A.**, Sriskandarajah C., and Benhabib B., "Automata-Based Modeling and Control Synthesis for Manufacturing Workcells with Part-Routing Flexibility", *IEEE Transactions on Robotics and Automation*, Vol. 16, No. 6, pp. 807-823, December 2000.

J56. **Ramirez-Serrano A.** and Benhabib B., "Supervisory Control of Multi-Workcell Manufacturing Systems with Shared Resources", *IEEE Transactions on Systems, Man and Cybernetics: Part B, Cybernetics*, Vol. 30, No. 5, pp. 668-683, October 2000.

J57. **Ramirez-Serrano A.**, S.C. Zhu, and Benhabib B., "Moore Automata for the Supervisory Control of Robotic Manufacturing Workcells", *Journal of Autonomous Robots*, Vol. 9, No. 1, pp. 59-69, July 2000.

J58. Boumedine M. and **Ramirez-Serrano A.**, "Fuzzy Knowledge-Based Controller Design for Autonomous Robot Navigation", *Journal of Expert Systems with Applications*, Vol. 14, No. 1/2, pp. 179-186, January/February 1998.

Conference Papers:

C1. Durante B., Gair S., **Ramirez-Serrano, A.**, and Johansen C., "Development and Control of a Small Scale Supersonic UAV", *AIAA Aviation Forum*, Chicago, IL, USA, June 27-July 1, 2022 (Submitted)

C2. P. Segura Parra, O. Lobato-Calleros, **A. Ramirez-Serrano**, and E.G. Hernandez-Martinez, "Safety Assurance in Human-Robot Collaborative Systems: A survey in the manufacturing industry", *55th CIRP International Conference on Manufacturing Systems*, Lugano, Switzerland, June 29-July 1, 2022. (Submitted)

C3. Lucier L., Kirkpatrick K., and **Ramirez-Serrano A.**, "Lessons Learned in the Introduction of Automation and Autonomy to International Space Station (ISS) Robotics Operations Planning", *SpaceOps 2021 conference*, Virtual Format (Due to COVID-19), May 21-21, 2021.

C4. Dalman B., Korobenko A., Ziade, P., **Ramirez-Serrano, A.**, and Johansen C., "Assessment of a framework for the multidisciplinary design and optimization of a small-scale supersonic UAV", XXX, YYY, (Submitted)

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