
ALI KARIMODDINI

Assistant Professor

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EDUCATION

Ph.D., National University of Singapore (NUS), Singapore, Electrical Engineering	2013
M.S., Petroleum University of Technology, Iran, Automation and Instrumentation	2006
B.S., Amirkabir University- Tehran Polytechnic, Iran, Electrical Engineering	2003

PROFESSIONAL EXPERIENCE

Assistant Professor, North Carolina A&T State University	2013-present
Research Assistant, University of Notre Dame	2012-2013
Graduate Research Assistant, National University of Singapore	2008-2012

RESEARCH INTEREST

“Hybrid modeling and control”, “Cooperative control of multi agent systems”, “Aerial robotics and flight control systems”, “Modeling, Optimization and cooperative control of distributed systems”, “Decentralized supervisory control”, “Discrete event systems”, "Distributed decision making for large scale systems"

TEACHING INTERET

ELEN668 - Automatic Control Theory

ELEN865 - Theory of Linear Systems

PUBLICATIONS

Book

Maher, M. , and Karimoddini, A., "Programming and configuration of ProfiBus DP with Step7 software", Gheddis, 2005.

Book Chapter

Karimoddini, A. , Cai, G., Chen, B.M., Lin, H., and Lee, T. H., “Hierarchical Control Design of a UAV Helicopter”, in Advances in Flight Control Systems, INTECH, Vienna, Austria, 2011.

Journal Papers

- Karimoddini, A. , Lin, H. , Chen, B. M., and Lee, T. H., “A Bumpless Hybrid Supervisory Control Mechanism for the Formation of Unmanned Aerial Vehicles”, Mechatronics, 23(6), pp 677-688, 2013.

- Karimoddini, A., Lin, H., Chen, B. M., and Lee, T. H., “Hybrid three-dimensional formation control for unmanned helicopters”, *Automatica*, 49(2), pp 424-433, 2013.
- Karimoddini, A., Lin, H., Chen, B. M., and Lee, T. H., “Hybrid Formation Control of the Unmanned Aerial Vehicles”, *Mechatronics*, 21(5), pp. 886-898, 2011.
- Davari, A., M. Marhaban, H. S., Bahari, M., Karimadini, M., and Karimoddini, A., “Parameter estimation of K-distributed sea clutter based on fuzzy inference and Gustafson-Kessel clustering”, *Fuzzy Sets and Systems*, 163(1), pp. 45-53, 2011.
- Karimoddini, A., Lin, H., Chen, B. M., and Lee, T. H., “Hierarchical Hybrid Modelling and Control of the Unmanned Aerial Vehicles”, Submitted for publication.

Conference Papers

- Karimoddini, A., Lin, H., Chen, B. M., and Lee, T. H., “A Smooth Hybrid Symbolic Control for a Team of UAVs Over a Partitioned space”, *Proc. of the 2013 American Control Conference, USA, 2013.*
- Karimoddini, A., and Lin, H., “Hierarchical Hybrid Symbolic Control for Robot Motion Planning”, *Proc. of 10th IEEE International Conference on Control & Automation, China, 2013.*
- Karimoddini, A., Dong, X., Cai, G., Feng, L., Lin, H., Chen, B. M., and Lee, T. H., “A Composed Hybrid Structure for the Autonomous Flight Control of Unmanned Helicopters”, *18th IFAC World Congress (IFAC), Italy, 2011.*
- Karimoddini, A., Cai, G., Chen, B. M., Lin, H., and Lee, T. H., “Multi-layer Flight Control Synthesis and Analysis of a Small-scale UAV Helicopter”, *4th IEEE International Conference on Robotics, Automation and Mechatronics (RAM), Singapore, 2010.*
- Karimoddini, A., Lin, H., Chen, B. M., and Lee, T. H., “Developments in hybrid modeling and control of unmanned aerial vehicles”, *7th IEEE International Conference on Control and Automation, New Zealand, 2009.*
- Karimoddini, A., Salahshoor, K., Fatehi, A., and Karimadini, M., “A New Approach for Online Fuzzy Identification”, *European Control Conference (ECC2007), Greece, 2007.*
- Karimoddini, A., Salahshoor, K., Fatehi, A., and Karimadini, M., “Overcoming with Overfitting Problem in Fuzzy GK Clustering Algorithm”, *ATTCE 2006, Malaysia, 2006.*