Jiapeng Yin 尹嘉鵬

Postdoctoral Scholar

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Education

- Ph.D. (*Cum Laude*) in Electronics Engineering

  University of Seville, Seville, Spain   2016.10 – 2021.08

- M.S. in Control Science and Engineering

  Harbin Institute of Technology, Harbin, China   2014.09 – 2016.07

- B.S. in Automation (Honors Program)

  Harbin Institute of Technology, Harbin, China   2010.08 – 2014.06

Publications

In Journals:

- [1] **J. Yin**, J. I. Leon, M. A. Perez, L. G. Franquelo, A. Marquez and S. Vazquez, "Model Predictive Control of Modular Multilevel Converters using Quadratic Programming," in IEEE Transactions on Power Electronics.

- [2] **J. Yin**, J. I. Leon, M. A. Perez, L. G. Franquelo, A. Marquez, B. Li and S. Vazquez, "Variable Rounding Level Control Method for Modular Multilevel Converters," in IEEE Transactions on Power Electronics.

- [3] A. M. Alcaide, J. I. Leon, R. Portillo, **J. Yin**, S. Vazquez, W. Luo, S. Kouro and L. G. Franquelo, "Variable-Angle PS-PWM Technique for Multilevel Cascaded H-Bridge Converters with Large Number of Power Cells," in IEEE Transactions on Industrial Electronics.

- [4] S. Yin and **J. Yin**, "Tuning kernel parameters for SVM based on expected square distance ratio," in Information Sciences, vol. 370, pp. 92-102, November 2016.

In International Conferences:

- [1] **J. Yin**, J. I. Leon, M. A. Perez, A. Marquez, L. G. Franquelo and S. Vazquez, "FS-MPC Method for MMCs with Large Number of Submodules with Reduced Computational Cost," 2020 IEEE International Conference on Industrial Technology (ICIT), Buenos Aires, Argentina, 2020, pp. 1083-1088.

- [2] **J. Yin**, J. I. Leon, L. G. Franquelo, S. Vazquez and A. Marquez, "Cost-effective Design of Modular Multilevel Converter Employing Full-bridge Submodules," 2019 IEEE 13th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG), Sonderborg, Denmark, 2019, pp. 1-6.

- [3] **J. Yin**, J. I. Leon, L. G. Franquelo, S. Vazquez and A. Marquez, "Generating the Arm Voltage References of Modular Multilevel Converters Employing Predictive Technique," IECON 2018 - 44th Annual Conference of the IEEE Industrial Electronics Society, Washington, DC, 2018, pp. 3949-3954.

- [4] F. J. Gonzalez, A. Marquez, J. I. Leon, S. Vazquez, L. G. Franquelo and **J. Yin**, "Flexible Harmonic Control for Three-Level Selective Harmonic Modulation Using the Exchange Market Algorithm," IECON 2018 - 44th Annual Conference of the IEEE Industrial Electronics Society, Washington, DC, 2018, pp. 5297-5302.

- [5] **J. Yin**, A. Marquez, J. I. Leon, L. G. Franquelo and S. Vazquez, "Improving the operation of the modular multilevel converters with model predictive control," 2018 IEEE 12th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG 2018), Doha, 2018, pp. 1-6.

- [6] **J. Yin**, J. I. Leon, L. G. Franquelo and S. Vazquez, "A simple model predictive control strategy aiming at enhancing the performance of modular multilevel converters," IECON 2017 - 43rd Annual Conference of the IEEE Industrial Electronics Society, Beijing, 2017, pp. 4247-4252.

- [7] H. Zhou, A. Chen, C. Yang, **J. Yin** and H. Yu, "A data-driven KPI prediction method for vehicular cyber physical system," 2016 IEEE 25th International Symposium on Industrial Electronics (ISIE), Santa Clara, CA, 2016, pp. 72-77.

- [8] Y. Jiang, H. Yu, **J. Yin** and C. Yang, "Study on KPI-related subspace decomposition for fault detection and robust KPI prediction against abnormal data," 2016 IEEE 25th International Symposium on Industrial Electronics (ISIE), Santa Clara, CA, 2016, pp. 100-105.

- [9] **J. Yin**, J. Hou, Z. She, C. Yang and H. Yu, "Improving the performance of SVM-RFE on classification of pancreatic cancer data," 2016 IEEE International Conference on Industrial Technology (ICIT), Taipei, 2016, pp. 956-961.

- [10] T. Gao, N. Zhao, H. Yu, **J. Yin** and Y. Jiang, "A PLS based locally weighted project regression approach for fault diagnose of nonlinear process," 2016 IEEE International Conference on Industrial Technology (ICIT), Taipei, 2016, pp. 944-949.

In National Conferences:

- [1] **J. Yin**, J. I. Leon, L. G. Franquelo, E. Zafra, S. Vazquez and A. Marquez, "Diseño Efectivo en Coste de Convertidor Modular Multinivel Empleando Submódulos de Puente Completo," Seminario Anual de Automática, Electrónica Industrial e Instrumentación (SAAEI19), Córdoba, 2019.

Research Interests

- Control and modulation of multilevel converters for medium/high voltage high power applications, with a focus on cascaded modular topologies.
- Artificial intelligence techniques and their applications to power electronics and power systems.

Projects

- Hybrid Energy Storage Systems for improving the management of future electric grids (TEC2016-78430-R), 86000 euros, Spanish Ministry of Science and Education & University of Seville, 2017-2021, participant.

Selected Awards & Honors

- Best Presenter Award of Session (18th International Symposium "Topical Problems in the Field of Electrical and Power Engineering" and "Doctoral School of Energy and Geotechnology III", regular session: Electrical Engineering-II), 2019, Estonia.
- Best Presenter Award of Session (17th International Symposium "Topical Problems in the Field of Electrical and Power Engineering" and "Doctoral School of Energy and Geotechnology III", regular session: Power Electronics-II), 2018, Estonia.
- Student Paper Travel Assistance Award (43rd Annual Conference of the IEEE Industrial Electronics Society, Beijing), 2017, China.
- Scholarship of China Scholarship Council (CSC, for 4 years of Ph.D. study), 2016, China.
- Construction Technology Company Elite Scholarship, 2012, China.
- National Scholarship, 2011, China.

Academic Services

- Reviewer of IEEE Transactions on Power Electronics, IEEE Transactions on Industrial Electronics, IEEE Transactions on Industrial Informatics, etc.