NING TIAN

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EDUCATION

University of Kansas, Lawrence, Kansas   2015–Present

Ph.D. student in Mechanical Engineering, GPA 3.93/4

Northwestern Polytechnical University, Xi'an, China   2012–2015

M.S. in Mechanical Engineering, GPA 85.10/100

Northwestern Polytechnical University, Xi'an, China   2008–2012

B.S. with high honors in Mechanical Engineering, GPA 85.43/100

RESEARCH EXPERIENCE

Information and Smart Systems Lab, University of Kansas   2015–Present

Graduate Research Assistant, Supervisor: Dr. Huazhen Fang

– Conduct research on lithium-ion battery management, including battery modeling and identification, health-aware battery charging, thermal management of battery pack

– Take charge of lab battery tester operation and supervise multiple students in battery testing

Heat Transfer and Cooling Lab, Northwestern Polytechnical University   2012–2015

Graduate Research Assistant, Supervisor: Dr. Huiren Zhu

– Investigated impingement cooling at turbine blade trailing edge

Energy Saving and Emission Reduction Lab, Northwestern Polytechnical University   2011

Research Assistant, funded by National Innovation Experiment Program for Undergraduates

– Evaluated adsorption capability of magnesium-aluminium hydrotalcite for fluoride ion

JOURNAL PAPERS

J.4 **N. Tian**, H. Fang, J. Chen and Y. Wang, "Nonlinear double-capacitor model for rechargeable batteries: Modeling, identification and validation," to be submitted to *IEEE Transactions on Industrial Electronics*

J.3 **N. Tian**, Y. Wang, J. Chen and H. Fang, "One-shot parameter identification of an equivalent circuit model for batteries: Methods and validation," submitted to *Energy*, under review

J.2 **N. Tian**, H. Fang and Y. Wang, "3-D temperature field reconstruction for a lithium-ion battery pack: A distributed Kalman filtering approach," *IEEE Transactions on Control Systems Technology*, vol. 27, no. 2, pp. 847–854, 2019

J.1 H. Fang, **N. Tian**, Y. Wang, M. Zhou and M.A. Haile, "Nonlinear Bayesian estimation: From Kalman filtering to a broader horizon," *IEEE/CAA Journal of Automatica Sinica*, vol. 5, no. 2, pp. 401–417, 2018

CONFERENCE PAPERS

C.6 **N. Tian**, H. Fang and Y. Wang, "Real-Time Optimal Lithium-Ion Battery Charging Based on Explicit Model Predictive Control," submitted to *the 28th International Symposium on Industrial Electronics*

C.5 **N. Tian**, H. Fang and Y. Wang, "Parameter identification of the nonlinear double-capacitor model for lithium-ion batteries: From the Wiener perspective," accepted by *2019 American Control Conference*

C.4 **N. Tian**, H. Fang and J. Chen, "A new nonlinear double-capacitor model for rechargeable batteries," in *Proceedings of the 44th Annual Conference of the IEEE Industrial Electronics Society*, Washington D.C., USA, Oct. 21–23, 2018

C.3 **N. Tian**, Y. Wang, J. Chen and H. Fang, "On parameter identification of an equivalent circuit model for lithium-Ion batteries," in *Proceedings of IEEE Conference on Control Technology and Applications*, Kohala Coast, HI, USA, Aug. 27–30, 2017

C.2 **N. Tian** and H. Fang, "Distributed Kalman filtering-based three-dimensional temperature field reconstruction for a lithium-ion battery pack," in *Proceedings of American Control Conference*, Seattle, WA, USA, May. 24–26, 2017

C.1 **N. Tian**, H. Zhu and M. Zhang, "Numerical analysis of flow and heat transfer of inclined impingement in the trailing edge of turbine blade," in *International Symposium on Jet Propulsion and Power Engineering*, Beijing, China, Sep. 15–19, 2014

PATENT

N. Tian, and H. Zhu, "An inclined impingement cooling channel," Patent No. CN104,265,376B, April 2016 (assigned to Northwestern Polytechnical University, Xi'an, China)

PRESENTATIONS

P.4 "A new equivalent circuit model for rechargeable batteries," at 13th Berkeley Energy & Resources Collaborative (BERC) Energy Summit, UC Berkeley, 2019

P.3 "A new nonlinear double-capacitor model for rechargeable batteries," at 44th Annual Conference of the IEEE Industrial Electronics Society, Washington D.C., Oct. 22, 2018

P.2 "Model predictive control for battery charging," at 1st Model Predictive Control Summer School, University of Wisconsin-Madison, Jul. 28, 2017

P.1 "Distributed Kalman filtering-based three-dimensional temperature field reconstruction for a lithium-ion battery pack," at 2017 American Control Conference, Seattle, Washington, May. 24, 2017

EXTRACURRICULAR EXPERIENCE

Orientation Leader, summer orientation at University of Kansas, Summer 2018

Education Volunteer, Engineering Summer Camp and Engineering Expo at University of Kansas and outreach at Douglas County Juvenile Detention Center, 2016–Present

Sessional Lecturer, Xi'an Electric Power College, Xi'an, China, Fall 2013

Freshman Mentor, Northwestern Polytechnical University, Xi'an, China, Fall 2011

Volunteer Leader, International Horticultural Exposition, Xi'an, China, July 2011

Education Volunteer, Xinfeng Elementary School, Zhangye, China, July 2009

AWARDS

GEA Travel Award, University of Kansas	2018
Graduate Presentation Travel Award, University of Kansas	2018
Finalist for Tradition of Excellence Award, University of Kansas	2018

MEMBERSHIP

IEEE Student Membership	2017–Present

SERVICE

Student Liaison for ASME Energy Systems Technical Committee

Reviewer for American Control Conference (2017, 2019), Dynamic Systems and Control Conference (2017–2018), IEEE Conference on Control Technology and Applications (2017–2018), IEEE International Conference on Control and Automation (2017, 2019)

SKILLS

MATLAB, ANSYS Fluent, UG, AutoCAD, CSS, HTML