

Zhe Du

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EDUCATION

- University of Michigan-Ann Arbor** **Ann Arbor, USA**
- Doctor of Philosophy, in Electrical & Computer Engineering-Signal Processing **2017.09-Now**
Overall GPA: 4.0/4.0
 - Master of Science, in Electrical & Computer Engineering-Signal Processing **2015.09-2017.04**
Overall GPA: 4.0/4.0
- Huazhong University of Science & Technology (HUST)** **Wuhan, China**
- Bachelor of Engineering, in Electrical Engineering and Automation **2010.09-2014.06**
Overall GPA: 3.67/4.0, Junior Year GPA: 3.81/4.0, Senior Year GPA: 3.93/4.0

RESEARCH EXPERIENCES

- Department of Electrical Engineering & Computer Science-ECE, UMich** **Ann Arbor, US**
- **Aggregation of Markov chain and Markov Jump Systems** **2019.01-Present**
 - Proposed algorithms to cluster lumpable/aggregatable Markov jump systems.
 - Achieved improved performance in computation reduction of system analysis and planning.
 - Partial work accepted by CAMSAP 2019 and got best student paper award.
 - **Input design for system identification** **2018.07-2018.12**
 - Formulate the objective function on inputs that could minimize the variance of estimator.
 - Used max-cut algorithm to sub-optimally minimize the non-convex objective function.
 - **Switched System Online Identification** **2016.09-2018.06**
 - Proposed an algorithm that is robust to estimates initializations.
 - Proved the local convergence of the algorithm and showed algorithm performs well on synthetic data.
 - This work is accepted by SYSID2018.
 - **Inferring Behavior of Power Grid with Dynamic Mirror Descent (DMD)** **2016.05-2016.09**
 - Proposed method of using dynamic models which greatly increases existing performance.
 - **Robustness Analysis of Photometric Stereo** **2016.01-2016.05**
Advisor: Prof. Raj Rao Nadakuditi
 - Figured out the reason spikes are formed on recovered object surfaces with photometric stereo.
 - Proposed method using weighted least squares to eliminate spikes and make recovery robust.

PUBLICATIONS

- Du, Zhe, Laura Balzano, and Necmiye Ozay. "A Robust Algorithm for Online Switched System Identification." IFAC-PapersOnLine 51.15 (2018): 293-298.
- Du, Zhe et al. "Mode Clustering for Markov Jump Systems." 2019 IEEE 8th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP) (2019): 126-130.

HONORS & AWARDS

- CAMSAP 2019 Best Student Paper Award (3rd Place) **2019.12**