# DAI ZHONGXIANG

NUS School of Computing, COM1, 13 Computing Drive, 117417
(+65)93849602 ⋄ daizhongxiang@comp.nus.edu.sg

## EDUCATION

**National University of Singapore (NUS)** *Aug 2017 - present*

- Ph.D. student in Artificial Intelligence, Department of Computer Science
- Advisors: Bryan Kian Hsiang Low (NUS) & Patrick Jaillet (MIT)
- Supported by Singapore-MIT Alliance for Research and Technology (SMART) Graduate Fellowship

**National University of Singapore (NUS)** *Aug 2011 - Jun 2015*

- Bachelor of Engineering (Electrical Engineering), First Class Honors
- GPA: 4.8/5.0

## RESEARCH EXPERIENCES

**National University of Singapore, Department of Computer Science** *Aug 2017 - present*

- Ph.D. student
- Sequential decision-making under uncertainty (Bayesian optimization, reinforcement learning, multi-armed bandit, active learning, etc.), automated machine learning, probabilistic machine learning.

**Singapore Institute for Neurotechnology, Cognitive Engineering** *Aug 2015 - Apr 2017*

- Research Assistant
- Data analysis for Neuroscience with machine learning

**Rolls-Royce Singapore, Advanced Technology Center** *Jan 2014 - Dec 2014*

- Intern
- Magnetic circuit modeling & simulation for permanent magnet synchronous machine

## PUBLICATIONS

**Computer Science**

- **Zhongxiang Dai**, Haibin Yu, Kian Hsiang Low and Patrick Jaillet. "Bayesian Optimization Meets Bayesian Optimal Stopping." In *36th International Conference on Machine Learning (ICML)*, Long Beach, CA, Jun 9-15, 2019. (*Acceptance Rate: 22.6%*)
- Yehong Zhang, **Zhongxiang Dai**, Kian Hsiang Low. "Bayesian Optimization with Binary Auxiliary Information." In *35th Conference on Uncertainty in Artificial Intelligence (UAI)*, Tel Aviv, Israel, Jul 22-25, 2019. (*Acceptance Rate: 26.2%*, *oral presentation*)
- **Zhongxiang Dai**, José C. Príncipe, Anastasios Bezerianos, and Nitish V. Thakor. "Cognitive Workload Discrimination in Flight Simulation Task Using A Generalized Measure of Association." In *International Conference on Neural Information Processing (ICONIP)*, pp. 692-699. Springer, Cham, 2015.

**Computational Neuroscience**

- Yuan Zhang, **Zhongxiang Dai**, Yu Chen, Kang Sim, Yu Sun, and Rongjun Yu. "Altered Intra- and Inter-hemispheric Functional Dysconnectivity in Schizophrenia." *Brain Imaging and Behavior* (2018): 1-16. (*Impact Factor: 3.719*)
- Georgios N. Dimitrakopoulos, Ioannis Kakkos, **Zhongxiang Dai**, Hongtao Wang, Kyriakos Sgarbas, Nitish Thakor, Anastasios Bezerianos, and Yu Sun. "Functional Connectivity Analysis of Mental Fatigue Reveals Different Network Topological Alterations between Driving and Vigilance Tasks." *IEEE Transactions on Neural Systems and Rehabilitation Engineering* 26, no. 4 (2018): 740-749. (*Impact Factor: 3.972*)
- Yu Sun, **Zhongxiang Dai**, Junhua Li, Simon L. Collinson, and Kang Sim. "Modular-level Alterations of Structure-function Coupling in Schizophrenia Connectome." *Human Brain Mapping* 38, no. 4 (2017): 2008-2025. (*Impact Factor: 4.927*)
- Yu Sun*, Julian Lim*, **Zhongxiang Dai**, KianFoong Wong, Fumihiko Taya, Yu Chen, Junhua Li, Nitish Thakor, and Anastasios Bezerianos. "The Effects of A Mid-task Break on the Brain Connectome in Healthy Participants: A Resting-state Functional MRI Study." *NeuroImage* 152 (2017): 19-30. (*Impact Factor: 5.426*)
- **Zhongxiang Dai**, Joshua De Souza, Julian Lim, Paul M. Ho, Yu Chen, Junhua Li, Nitish Thakor, Anastasios Bezerianos, and Yu Sun. "EEG Cortical Connectivity Analysis of Working Memory Reveals Topological Reorganization in Theta and Alpha Bands." *Frontiers in Human Neuroscience* 11 (2017): 237. (*Impact Factor: 2.871*)
- Georgios N. Dimitrakopoulos*, Ioannis Kakkos*, **Zhongxiang Dai**, Julian Lim, Anastasios Bezerianos, and Yu Sun. "Task-independent Mental Workload Classification Based upon Common Multiband EEG Cortical Connectivity." *IEEE Transactions on Neural Systems and Rehabilitation Engineering* 25, no. 11 (2017): 1940-1949. (*Impact Factor: 3.972*)
- **Zhongxiang Dai**, Yu Chen, Junhua Li, Johnson Fam, Anastasios Bezerianos, and Yu Sun. "Temporal Efficiency Evaluation and Small-worldness Characterization in Temporal Networks." *Scientific Reports* 6 (2016): 34291. (*Impact Factor: 4.122*)

## AWARDS AND HONORS

- Singapore-MIT Alliance for Research and Technology (SMART) Graduate Fellowship, Aug 2017
- JDDiscovery Population Dynamics Census and Prediction Competition 2019 (annual competition hosted by JD.com): *global champion*, ranked 1st among $>$ 2,100 teams, Jan 2019
- ST Electronics Prize (*the top student in the cohort* of Electrical Engineering Year 1, NUS), Academic Year 2011/2012
- ST Electronics Prize (*the top student in the cohort* of Electrical Engineering Year 2, NUS), Academic Year 2012/2013
- Dean's List (top 5% in Electrical Engineering, NUS) $\times$ 5, 2011-2015
- Selected founding member of IEEE-Eta Kappa Nu (HKN) society, NUS Chapter, Mar 2013
- IEEE MTT/AP Prize for EE2011 Quiz Challenge, second prize, Oct 2012
- Singapore Ministry of Education SM3 scholarship for undergraduate PRC students, 2010

## ACADEMIC TALKS

- Bayesian Optimization Meets Bayesian Optimal Stopping, at Singapore-MIT Alliance, Future Urban Mobility Symposium 2019, Jan 28, 2019

## TEACHING

- Tutor for *CS3244 Machine Learning*, NUS School of Computing (Spring 2019)
- Teaching Assistant for *CS1010E Programming Methodology*, NUS School of Computing (3 semesters from 2012 to 2014)

## ADDITIONAL INFORMATION

- Google scholar profile: Dai Zhongxiang
- Languages: Mandarin and English (proficient in both speaking and writing)
- Other machine learning competitions: Kaggle Melbourne University AES/MathWorks/NIH Seizure Prediction Competition: ranked 54th among 478 teams as a solo competitor (top 12%), Dec, 2016