Zi **Wang**

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Education

2014 – 2019 **Ph.D.** Candidate in EECS, ***Massachusetts Institute of Technology*** — Cambridge, MA
- Thesis: Robot Learning With Strong Priors
- Advisors: Prof. Leslie Pack Kaelbling and Prof. Tomás Lozano-Pérez

2014 – 2016 **S.M.** in EECS, ***Massachusetts Institute of Technology*** — Cambridge, MA
- Thesis: Optimization as Estimation with Gaussian Process Bandits
- Advisors: Prof. Stefanie Jegelka and Prof. Leslie Pack Kaelbling

2010 – 2014 **B.Eng.** in Computer Science and Technology, ***Tsinghua University*** — Beijing, China
- Thesis: Fast Dropout Training for Deep Neural Networks (in Chinese)
- Advisors: Prof. Fei Sha and Prof. Jun Zhu

Honors & Awards

2019 Robotics: Science and Systems (RSS) Pioneers 2019. — Freiburg, Germany

2019 MIT Graduate Women of Excellence 2019. — Cambridge, MA

2018 Rising Stars in Electrical Engineering & Computer Science 2018. — Cambridge, MA

2014-2015 Greater China Computer Science Fellowship, *MIT.* — Cambridge, MA

Jul. 2014 Outstanding Graduates Award, *Tsinghua.* — Beijing, China

Nov. 2013 Science and Innovation Scholarship, *Tsinghua.* — Beijing, China

Sep. 2013 Anita Borg Scholarship, *Google China.* — Beijing, China

Professional Experience

2019 **Research Intern**, *Microsoft Research New England.* — Cambridge, MA

2014 – 2019 **Research Assistant**, *Learning and Intelligent Systems Group, CSAIL, MIT.* — Cambridge, MA

2017 **Software Engineering Intern**, *Uber Advanced Technologies Group.* — Pittsburgh, PA

2015 **Teaching Assistant**, *6.883 Advanced Machine Learning, MIT.* — Cambridge, MA

2013 – 2014 **Research Assistant**, *Theoretical and Empirical Data Sciences Group, USC.* — Los Angeles, CA

2013 – 2014 **Research Assistant**, *State Key Lab of Intelligent Tech. & Systems, Tsinghua.* — Beijing, China

2012 – 2013 **Research Assistant**, *Future Internet Technology Sub-interest Group, Tsinghua.* — Beijing, China

Selected Publications

Z. Wang, C. R. Garrett, J. Mao, K. Chen, S. Thompson, A. LaGrassa, N. Gothoskar, I. Jutamulia, J. Xu, L. P. Kaelbling, T. Lozano-Pérez. **Learning for task and motion planning**. *In preparation.*

B. Kim, **Z. Wang**, L. P. Kaelbling, T. Lozano-Pérez. **Learning to guide task and motion planning using score-space representation**. *International Journal of Robotics Research (IJRR), 2019.*

V. Xia*, **Z. Wang***, K. Allen, T. Silver, L. P. Kaelbling. **Learning sparse relational transition models**. *International Conference on Learning Representations (ICLR), 2019.*

Z. Wang*, B. Kim*, L. P. Kaelbling. **Regret bounds for meta Bayesian optimization with an unknown Gaussian process prior**. *Advances in Neural Information Processing Systems (NeurIPS), 2018. Spotlight talk (3.5% acceptance rate).*

Z. Wang, C. R. Garrett, L. P. Kaelbling, T. Lozano-Pérez. **Active model learning and diverse action sampling for task and motion planning**. *International Conference on Intelligent Robots and Systems (IROS), 2018.*

Z. Wang, C. Gehring, P. Kohli, S. Jegelka. **Batched large-scale Bayesian optimization in high-dimensional spaces**. *International Conference on Artificial Intelligence and Statistics (AIStats), 2018.*

Z. Wang, S. Jegelka. **Max-value entropy search for efficient Bayesian optimization**. *International Conference on Machine Learning (ICML), 2017.*

Z. Wang*, C. Li*, S. Jegelka, P. Kohli. **Batched high-dimensional Bayesian optimization via structural kernel learning**. *International Conference on Machine Learning (ICML), 2017.*

Z. Wang, S. Jegelka, L. P. Kaelbling, T. Lozano-Pérez. **Focused model-learning and planning for non-Gaussian continuous state-action systems**. *IEEE Conference on Robotics and Automation (ICRA), 2017.*

Z. Wang, B. Zhou, S. Jegelka. **Optimization as estimation with Gaussian processes in bandit settings**. *International Conference on Artificial Intelligence and Statistics (AIStats), 2016. Oral presentation (6% acceptance rate).*

Z. Wang, F. Sha. **Discriminative non-negative matrix factorization for single-channel speech separation**. *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2014.*

J. Chen, J. Zhu, **Z. Wang**, X. Zheng, B. Zhang. **Scalable inference for logistic-normal topic models**. *Neural Information Processing Systems (NIPS), 2013.*

Invited Talks

Human intelligence assisted robot learning.
- AI Colloquium, University Stuttgart, Stuttgart, Germany, Jun 2019.
- Shift Technology, Paris, France, Jun 2019.

Active model learning and diverse action sampling for task and motion planning.
- University of Washington, Seattle, WA, Sep 2018.

Regret bound of Bayesian optimization with unknown GP prior.
- Microsoft Research AI Breakthroughs Workshop, Redmond, WA, Sep 2018.

Bayesian optimization guided by max-values.
- International Symposium on Mathematical Programming (ISMP), Bordeaux, France, Jul 2018.

Bayesian optimization and how to scale it up.
- Computer Science Colloquium, University of Southern California, Los Angeles, CA, Nov 2017.

Scaling up Bayesian optimization with ensembles.
- DeepMind, London, UK (remote talk), Jun 2017.

Focused model-learning and planning for non-Gaussian continuous state-action systems.
- The Manipulation Lab at Carnegie Mellon University Robotics Institute, Pittsburgh, PA, Jun 2017.
- Uber ATG, Pittsburgh, PA, Jun 2017.

Academic Service

Co-president of Graduate Women in Course 6 (GW6) in 2016.

Co-organizer of Machine Learning Across MIT 2018-2019.

Reviewer of JMLR, IEEE T-RO, NeurIPS, ICML, AIStats, ICLR, AAAI, UAI, IROS.

Research supervisor of undergraduate, MEng and visiting students at MIT: Michael Amoako (2016-2017; now at Microsoft), Kevin Chen (2018), Skye Thompson (2018-2019), Ivan Jutamulia (2018 Summer), Victoria Xia (2017-2018; now at Confluent), Alex LaGrassa (2018-2019; now PhD student at CMU), Nishad Gothoskar (2018 Summer; now at Vicarious), Jingxi Xu (2018 Summer), Jiayuan Mao (2018-2019; now PhD student at MIT).

Skills and Others

Most experienced (>5 years) with Python, Matlab and LaTeX.

Some experience (>2 years) with ROS, Java, C/C++, JavaScript, HTML.

Languages: Chinese (native), English (fluent), Japanese (beginner).