Keyulu Xu

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Education

- **Massachusetts Institute of Technology** — Cambridge, MA
  Ph.D., Electrical Engineering and Computer Science *GPA* 5.0/5.0 — *Sep. 2016 – Present*
  - Research interests: deep learning, theory, optimization
  - Advisor: Stefanie Jegelka
- **University of British Columbia** — Vancouver, BC
  B.S., Honours Computer Science and Mathematics *GPA* 3.98/4.0 — *Sep. 2012 – May. 2016*
  - Advisor: Nick Harvey

Experience

- **MIT Machine Learning Group** — Cambridge, MA
  Research Assistant — *Sep. 2016 – Present*
  - Research on deep representation learning on graphs by exploiting subgraph structures; improving generative adversarial networks (GANs) with distributional adversarials; theory for combinatorial structures and learnability, generalization; spatial-temporal models and time series forecasting.
- **National Institute of Informatics** — Tokyo, Japan
  Visiting Researcher — *Feb. 2016 – Present*
  - Research on a new proof of the Four Color Theorem with more profound mathematical understanding and faster coloring algorithms. Hosted by Prof. Ken-ichi Kawarabayashi.
- **Google Inc.** — New York, NY
  Software Engineering Intern — *May. 2015 – Aug. 2015*
  - Designed and implemented Google distributed data storage infrastructure for OS X servers.
- **UBC Theory Group** — Vancouver, BC
  Research Assistant — *May. 2014 – May. 2015*
  - Researched in spectral graph theory and randomized algorithms.
- **UBC Scientific Computing Lab** — Vancouver, BC
  Research Assistant — *May. 2013 – Aug. 2013*
  - Developed a high-performance numerical computing package for large-scale sparse saddle-point systems.

Publications

- Keyulu Xu, Chengtao Li, Yonglong Tian, Tomohiro Sonobe, Ken-ichi Kawarabayashi, Stefanie Jegelka. Representation Learning on Graphs with Jumping Knowledge Networks. *International Conference on Machine Learning* (**ICML**) 2018.
- Chengtao Li, David Alvarez-Melis, Keyulu Xu, Stefanie Jegelka, Suvrit Sra. Distributional Adversarial Networks. *International Conference on Learning Representations Workshop Track* (**ICLR**) 2018.
- Nicholas J.A. Harvey and Keyulu Xu. Generating Random Spanning Trees via Fast Matrix Multiplication. *Latin American Theoretical Informatics Symposium* (**LATIN**). 2016.

Fellowship & Awards

- David S. Y. and Harold Wong Fellowship, 2017
- Andrew and Erna Viterbi Fellowship, 2016
- ACM-ICPC Programming Contest 5th Place, Pacific NW Region, 2013

Skills

Programming Languages C++, Python, Go, Java, Matlab, Scheme

Natural Languages Japanese, Chinese, English