Kai Xu

http://xuk.ai/

Informatics Forum, 10 Crichton Street | Edinburgh, EH8 9AB
+44 (0) 770 771 9899 | kai.xu@ed.ac.uk

Email | GitHub | Google Scholar

About Me

I am a second year Ph.D Student at Institute for Adaptive and Neural Computation,
School of Informatics, University of Edinburgh. I am currently supervised by Charles
Sutton, working on deep Bayesian nonparametric models. Research topics that I am
interested in include approximate inference, (deep) generative models and probabilistic
programming.

Papers

- Kai Xu, Akash Srivastava, and Charles Sutton. Variational Russian Roulette for
  Deep Bayesian Nonparametrics. 2019 (pdf)
- Kai Xu, Akash Srivastava, and Charles Sutton. Amortized Inference for Latent
  Feature Models Using Variational Russian Roulette. *NeurIPS Workshop for All of
  Bayesian Nonparametrics*, 2018 (workshop, pdf)
- Akash Srivastava, Kai Xu, Michael U Gutmann, and Charles Sutton. Ratio
  Matching MMD Nets: Low dimensional projections for effective deep generative
  models. *arXiv preprint arXiv:1806.00101*, 2018 (arXiv, pdf)
- Kai Xu, Dae Hoon Park, Chang Yi, and Charles Sutton. Interpreting Deep
  Classifier by Visual Distillation of Dark Knowledge. *arXiv preprint
  arXiv:1803.04042*, 2018 (arXiv, pdf, demo, code, website)
- Hong Ge, Kai Xu, and Zoubin Ghahramani. Turing: Composable inference for
  probabilistic programming. In *International Conference on Artificial Intelligence
  and Statistics*, pages 1682–1690, 2018 (abs, pdf, code, website)

Talks

- Copresenter for "The Turing Language for Probabilistic Programming" at *The
  Inaugural International Conference on Probabilistic Programming*, MIT, MA, USA
  in October 2018
    - Introduced the Turing probabilistic programming language.
- Presenter for "Turing: a Fresh Approach to Probabilistic Programming." at
  JuliaCon 2017, Berkeley, CA, USA in June 2017 (video)
    - Introduced a new generic probabilistic programming language named
      Turing.jl.

Experience

- **University of Edinburgh** / Tutor for Probabilistic Modelling and Reasoning
  Jan. 2019 - PRESENT, Edinburgh, United Kingdom
- **University of Edinburgh** / Teaching Assistant for Machine Learning and
  Pattern Recognition *Sep. 2018 - Dec. 2018, Edinburgh, United Kingdom*

- **Apple** / Machine Learning Intern *May 2018 - Aug. 2018, Cambridge, United Kingdom*
- **University of Edinburgh** / Teaching Assistant for Design Informatics *Oct. 2017 - Dec. 2017, Edinburgh, United Kingdom*
- **University fo Cambridge** / Research Assistant at Machine Learning Group *Nov. 2016 - Jul. 2017, Cambridge, United Kingdom*

Education

- **University of Edinburgh** / Ph.D in Informatics: Machine Learning *Sep. 2017 - PRESENT, Edinburgh, United Kingdom*
    - Being supervised by Dr. Charles Sutton.
    - Currently working on amortised inference for Bayesian non-parametric models.
- **University of Cambridge** / M.Phil in Machine Learning, Speech & Language Technology *Oct. 2015 - Sep. 2016, Cambridge, United Kingdom*
    - M.Phil thesis supervised by Prof. Zoubin Ghahramani on probabilistic programming.
- **University of Liverpool** / B.Eng in Computer Science and Electronic Engineering *Sep. 2013 - Jun. 2015, Liverpool, United Kingdom*
- **Xi'an Jiaotong-Liverpool University** / B.Eng in Computer Science & Technology *Sep. 2011 - Jun. 2013, Suzhou, China*

Honors & Awards

- **Ph.D Studentship** *2017, University of Edinburgh*
- **International Undergraduate Student Scholarship** *2013, University of Liverpool*
- **Academic Excellence Award** *2012, Xi'an Jiaotong-Liverpool University*

Skills

- **Programming** Julia, Python, Java, Scala, MATLAB, Clojure, C/C++, HTML, CSS, JavaScript
- **Tooling** Git, Vim, Markdown, LaTeX
- **Language** Chinese, Wu Chinese, English

Projects (pre-Ph.D/casual)

- Mobile Robot Control using ROS ([poster](#))
- DBD Plasma Reactor Power Monitoring System
- Wireless Brain-Computer Interface for Game Control ([video](#))
- FlatShare ([code](#))
- Gravity Snake ([demo](#), [code](#))

Reference

- **Dr. Charles Sutton** School of Informatics, University of Edinburgh ([email](#))
- **Prof. Zoubin Ghahramani** Department of Engineering, University of Cambridge ([email](#))