Kai Xu

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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 amortised inference for 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. 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)