Kuan-Chieh Wang

Personal Information

WEBSITE:	https://wangkua1.github.io
PHONE/EMAIL:	+1 6475514541/wangkua1@cs.toronto.edu
MAILING ADDRESS:	Department of Computer Science
	10 King's College Road, Rm. 3302, Toronto, Ontario M5S 3G4, CANADA

Research Interests

I'm interested in out-of-distribution detection, (deep) generative modelling, Bayesian modelling, few-shot/transfer learning, and domain generalization. In terms of application areas, I have worked on computer vision, speech recognition, and sports analytics.

Education

2016 - PRESENT   PH.D. (candidate), Dept. of Computer Science, **University of Toronto**, Toronto, Canada
Advisor: Richard Zemel
Thesis: Out-of-distribution Detection in Few-shot Learning (tentative)

2014 - 2016   M.SC., Dept. of Computer Science, **University of Toronto**, Toronto, Canada
Advisor: Richard Zemel
Thesis: Classifying NBA Offensive Plays Using Neural Networks

2009 - 2014   B.ASC., Div. of Engineering Science, **University of Toronto**, Toronto, Canada
Thesis: Automated Tuning of Neural Networks: Analysis of Hyperparameters Proposed by the Bayesian Optimization Framework

Publications

* below indicates equal contribution

1. Jens Behrmann*, Paul Vicol*, **Kuan-Chieh Wang***, Roger B. Grosse, and Jörn-Henrik Jacobsen (2021)
   "Understanding and mitigating exploding inverses in invertible neural networks"
   In: *AISTATS*

2. **Kuan-Chieh Wang**, Paul Vicol, Eleni Triantafillou, and Richard Zemel (2020)
   "Few-shot Out-of-Distribution Detection"
   In: *ICML Workshop on Uncertainty and Robustness in Deep Learning*
   Spotlight

3. Will Grathwohl, **Kuan-Chieh Wang**, Jorn-Henrik Jacobsen, David Duvenaud, and Richard Zemel (2020)
   "Cutting out the Middle-Man: Training and Evaluating Energy-Based Models without Sampling"
   In: *ICML*

4. Will Grathwohl, **Kuan-Chieh Wang***, Jörn-Henrik Jacobsen*, David Duvenaud, Mohammad Norouzi, and Kevin Swersky (2020)
   "Your classifier is secretly an energy based model and you should treat it like one"
   In: *ICLR*
   Oral

5. **Kuan-Chieh Wang**, Jixuan Wang, Khai Truong, and Richard Zemel (2019)
   "Customizable Facial Gesture Recognition For Improved Assistive Technology"
   In: *ICLR AI for Social Good Workshop*

6. **Kuan-Chieh Wang***, Chia-Cheng Liu*, Paul Vicol, and Richard Zemel (2019)
   "Towards Few-Shot Out-of-Distribution Detection"
   In: *ICLR Safe Machine Learning Workshop*

7. Jonathan Shen, Patrick Nguyen, Yonghui Wu, Zhifeng Chen, Mia X Chen, Ye Jia, Anjuli Kannan, Tara Sainath, Yuan Cao, Chung-Cheng Chiu, et al. (2019)

"Lingvo: a modular and scalable framework for sequence-to-sequence modeling"
In: *Technical Report*

8. Jixuan Wang*, **Kuan-Chieh Wang***, Marc T Law, Frank Rudzicz, and Michael Brudno (2019)
"Centroid-based deep metric learning for speaker recognition"
In: *ICASSP*. IEEE, pp. 3652–3656

9. **Kuan-Chieh Wang**, Paul Vicol, James Lucas, Li Gu, Roger Grosse, and Richard Zemel (2018)
"Adversarial distillation of Bayesian neural network posteriors"
In: *ICML*

10. Thomas Kipf*, Ethan Fetaya*, **Kuan-Chieh Wang**, Max Welling, and Richard Zemel (2018)
"Neural Relational Inference for Interacting Systems"
In: *ICML*

11. Yujia Li, Alexander Schwing, **Kuan-Chieh Wang**, and Richard Zemel (2017)
"Dualing GANs"
In: *NeurIPS*, pp. 5606–5616

12. **Kuan-Chieh Wang** and Richard Zemel (2016)
"Classifying NBA offensive plays using neural networks"
In: *MIT Sloan Sports Analytics Conference*

Work Experience

Dec. 2018 Sept. 2018	**Student Researcher**, Google, Toronto Canada Worked within Google Brain team (TOR) with focus on speech recognition with Chung-Cheng Chiu, and William Chan.
Sept. 2018 Jun. 2018	**Research Intern**, Google, Mountain View USA Worked within Google Brain team (MTV) with focus on speech recognition hosted by Chung-Cheng Chiu.
Jul. 2016 Jan. 2015	**Machine Learning Consultant**, SmartFinance LLC, NYC USA Researched data-driven techniques for merchant resolution (MR). Developed tools for MR components such as NLP-based merchant name cleanup, logo retrieval, and location resolution.
Aug. 2013 May. 2012	**Software Development Intern**, Broadcom Corporation, San Diego USA Developed on the NFC stack and various downstream application components and was involved in designing new protocol/specs. Worked with software verification team to develop unit testing scripts using Perl/C++.

Awards and Honors

2017-2018	Bell Graduate Scholarship from *University of Toronto*
2014-2015	Mitacs Accelerate Grant with *University of Toronto & Toronto Raptors*
2011	Honorable Mention - Basic Science at *International Paediatric Radiology Conference*
2011	Dream of a Cure Studentship from *Canadian Hemophilia Society*
2009-2011	Queen Elizabeth II Aiming for the Top Scholarship

Teaching Experience

Sep. 2014 Present	**University of Toronto**, Toronto, Canada *Teaching Assistant* Courses: Programming on the Web, Computational Neuroscience, Eng. Sci. Thesis Mentor

Services

Conference Reviewer: NeurIPS (2019), ICML (2019,2020(Top Reviewer)), ICLR (2019,2020,2021), CVPR (2021)