

Pengyu Cheng

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Research Interests

My research interests focus on Bayesian deep learning and its applications in natural language processing. Currently, I am doing research on compressed sentence representation learning via discrete backpropagation, and network embedding via optimal transport.

Education

Duke University <i>Ph.D. Student, Electrical and Computer Engineering</i>	08/2017–Present
Tsinghua University <i>B.S., Mathematics and Statistics</i>	08/2013–07/2017

Publications

- **P. Cheng**, C. Liu, C. Li, D. Shen, H. Ricardo, and L. Carin. “Straight-Through Estimator as Projected Wasserstein Gradient Flow”, Neural Information Processing Systems (NeurIPS) Workshop, 2018 **Spotlight**
- C. Liu, J. Zhuo, **P. Cheng**, R. Zhang, J. Zhu, and L. Carin. “Accelerated First-order Methods on the Wasserstein Space for Bayesian Inference”, arXiv preprint arXiv:1807.01750, 2018

Experience

Information Initiative at Duke (iiD) <i>Research Assistant</i> Distribution matching and optimization problems and their applications in natural language processing.	08/2017–Present <i>Adviser: Lawrence Carin</i>
Tsinghua Intelligent Vision Group (IVG) <i>Student Researcher</i> Deep metric learning for person re-identification based on sequential frames information.	03/2016–07/2016 <i>Adviser: Jiwen Lu</i>
Student Research Program at Tsinghua <i>Student Researcher</i> Non-parametric k-sample tests using statistics which are based on local maximum energy distance.	11/2015–05/2017 <i>Adviser: Xuegong Zhang</i>
Beijing Sogou Information Service Co., Ltd. <i>Research Internship</i> Polygonal line-like city road data smoothing via Spline Interpolation; road data compressing via Douglas-Peucker algorithm.	08/2014–09/2014 <i>Mentor: Mao Wang</i>

Awards

○ Fellowship of Electrical and Computer Engineering at Duke	08/2017
○ First in Duke-Tsinghua Machine Learning Summer School (1/112)	08/2017
○ Academic Excellence Award of Tsinghua University (top 30%)	10/2014
○ Top 5 in the 18-th “Sogou Cup” Artificial Intelligence Programming Contest (5/200)	04/2014
○ Silver medal in the 28-th Chinese Mathematical Olympiad (CMO)	01/2013
○ First Prize in Chinese National Olympiad in Informatics in Provinces (NOIP)	11/2012

Technical Strengths

Computer Languages : Python (Tensorflow, Pytorch), R, C/C++

Software & Tools : LaTeX, Emacs, Mathematica, MATLAB, Excel, Markdown