Yihong Gu

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EDUCATION

BS, Computer Science, **Tsinghua University** Expected 07/2019
Overall GPA: **3.72**/4.0 Rank: 4/139
Minor: Statistics GPA: **3.76**/4.0
Optional: Mathematics GPA: **4.0**/4.0 (with 19 credits, set up for mathematical major students)
Measures and Integrals (A+), Functional Analysis, Probability Theory (1), Statistical Inference, Linear Regression

PUBLICATIONS

Jiaxin Shi, Jianfei Chen, Jun Zhu, Shengyang Sun, Yucen Luo, **Yihong Gu**, and Yuhao Zhou. *ZhuSuan: A Library for Bayesian Deep Learning*, arXiv:1709.05870, 2017.

AWARDS AND HONORS

National Scholarship, Tsinghua University 09/2016
Golden Medal (8/246), Chinese Collegiate Programming Contest 2015 10/2015
2nd Prize in National Olympiad in Informatics 2013, 2014 07/2013&2014

RESEARCH EXPERIENCE

NATURAL LANGUAGE PROCESSING

Research on Language Modeling *(submitted)* 10/2017 – Present
Independent Research, Supervised by Prof. Zhiyuan Liu, State Key Lab of Intelligent Technology & Systems

- Try to improve neural language modeling using external information.
- Propose a novel architecture which incorporate and write the core model code & pre-processing of the corpus.
- Perform experiments and analysis, finish the main body of the paper, submitted to **ACL2018** as the 1st author.

MACHINE LEARNING

Bayesian Deep Learning Framework: ZhuSuan 03/2017 – Present
Core group member, Supervised by Prof. Jun Zhu, State Key Lab of Intelligent Technology & Systems

- Writing code for some variational inference algorithms.
- Incorporate 'Flow' into the ZhuSuan Framework and writing corresponding code.
- Apply ZhuSuan Framework to some particular Bayesian Deep Learning Applications (e.g. Matrix Factorization).

Research on Bayesian Deep Learning 03/2017 – 05/2017
Independent Research, Supervised by Prof. Jun Zhu, State Key Lab of Intelligent Technology & Systems

- Try to improve the performance of Bayesian Neural Network using SGVB with Normalizing Flows.
- Design specific architecture of flows to improve the performance, perform experiments and analysis.
- Give up because that no significant improvements have been seen.

SELECTED COURSE PROJECTS

FOUNDATIONS FOR OBJECT-ORIENT PROGRAMMING (99/100, highest score)

Mastering the Game of Five-In-A-Row with Deep Neural Networks and Tree Search 05/2016 – 06/2016
Supervised by Associate Prof. Hailong Yao

- Apply the algorithm introduced in paper 'Mastering the Game of Go with Deep Neural Networks and Tree Search' to the game of five-in-a-row.
- Find data of a variety of game records made by human players independently, clean the data and build a dataset.
- In order to alleviate the problem caused by limited computational resources in tree search, I modify the algorithm slightly by giving short rollout low weight and vice versa since the number of rollouts is about 500 per round in PC.

COMPUTING SKILLS AND OTHERS

- **Computer skills:** **Programming languages:** C/C++, Java, R, Python, Assembly Language, MATLAB.
  Framework familiar with: TensorFlow, PyTorch.