HAOWEN XU

Email: haowen.xu@gatech.edu
Phone (404)307-3493 · (+86)130-2115-5743
Homepage: https://haowenxu.top

EDUCATION

MS **Georgia Institute of Techonology,** Computational Science and Engineering, *August 2019 - present*

B.Eng **Tsinghua University,** Biomedical Engineering, *September 2013 - July 2017*
GPA: 90.3/100, Ranking: 2/29

Exchange **Washington University in St. Louis,** *August 2015 - December 2015*
GPA: 4.0/4.0

RESEARCH INTERESTS

Reinforcement Learning, Meta-Learning, Curriculum Learning, Multi-task learning, Sequential Decision Making, Graphical Models, Interpretable ML. Applications in healthcare, biology, medicine, natural language and general AL.

PUBLICATION

[1] **Haowen Xu**, Hao Zhang, Zhiting Hu, Xiaodan Liang, Ruslan Salakhutdinov, Eric Xing. AutoLoss: Learning Discrete Schedule for Alternate Optimization. *ICLR 2019*

RESEARCH EXPERIENCE

Research Assistant, Machine Learning Group, Gatech January 2020 - present
Advisor: **Prof. Song Le**

- Working on end-to-end protein sequence alignment via differentiable combinatorial solver.

Research Assistant, SAILING LAB, Carnegie Mellon University March 2018 - July 2018
Advisor: **Prof. Eric Xing**

- Proposed a meta-learning framework, AutoLoss, that automatically learns and determines the schedule of optimization processes, which can improve the convergence of iterative and alternate training such as GAN, multi-task learning and curriculum learning.
- paper

Algorithm Engineer, Deeplycurious.ai, Beijing September 2017 - February 2018

- Developed an attention based sequence labeling model and applied it to a Chinese Named Entity Recognition task.
- Achieved state of the art results on MSRA bakeoff3 dataset and comparable results on the internal dataset while inferencing much faster than bi-LSTM baseline.

Algorithm Engineer, Deeplycurious.ai, Beijing September 2017 - February 2018

- Proposed a document classification model with a paragraph reasoning module in order to resolve feature conflicts between paragraphs.
- Applied hierarchical supervision strategy to exploit multi-granularity supervision.

Laboratory of Auditory Neurophysiology, Johns Hopkins University August 2016 - May 2017
Advisor: **Prof. Xiaoqin Wang**

- Adopted Artificial Neural Networks on segmentation and classification of auditory signals.
- Received training in data cleaning, data augmentation, data visualization.

Laboratory of Auditory Neurophysiology, Johns Hopkins University July 2016 - August 2016
Advisor: **Prof. Xiaoqin Wang**

- Introduced polarized photon into intrinsic imaging system to improve imaging depth and built a Monte Carlo simulation model to verify our theoretical results.

Molecular Bioelectricity Lab, Washington University in St. Louis August 2015 - December 2015
Advisor: **Prof. Jianming Cui**

- Built a kinetic model to represent the VSD-pore coupling in KCNQ1 channel
- Applied drug scanning method to find potential Ca^{2+} binding sites on BK channel.
- Received training in basic bioelectrical experiment skills such as voltage-clamp, patch-clamp, cell culturing and virus infection.

Fluorescence Molecular Imaging Lab, Tsinghua University February 2015 - August 2015
Advisor: **Prof. Jing Bai**

- Wrote the code on LabView for the control module of lab's Fluorescence Molecular Temperature Imaging System.

AWARDS

2017 Tsinghua Outstanding Undergraduate. (60 out of 3000+ students at Tsinghua University)
2016 Scholarship for Integrated Excellence. (Top 5% at Tsinghua University)
2015 Scholarship for Academic Excellence. (Top 5% at Tsinghua University)
2015 Honorable Mention Price in China Undergraduate Mathematical Contest in Modeling.
2014 Silver Trophy in Tsinghua Students Summer Practice. (Top 20 at Tsinghua University)