HAOWEN XU

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EDUCATION

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

RESEAARCH 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, Eric Xing. AutoLoss: Learning Discrete Schedule for Alternate Optimization. *Submitted to NIPS 2018*

RESEARCH EXPERIENCE

Research Intern, SAILING LAB, Carnegie Mellon University March 2018 - present
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.
- This work is submitted to 32nd Conference on Neural Information Processing Systems (NIPS 2018). 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 a state of the art result on MSRA bakeoff3 dataset and a comparable result on the company's 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 label supervision.

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

- Developed an automatic recording and analyzing system for animal vocalization behavior study. I was mainly responsible for applying deep machine learning to our analyzing algorithm.
- Challenged the common problems (e.g. insufficient data, unstable recording system, big individual variance) when applied deep learning methods to biomedical areas.

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

- Applied polarized light to intrinsic imaging system to improve imaging depth and built a 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**

- Developed the control system for our 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)
2014	The Second Place in Medical Instrument Creative Design Contest.

TECHNICAL & LANGUAGE

Programming Languages	Proficient in Python, Matlab, C/C++
	Familiar with Java, R, Verilog, VHDL, LabView
English	TOEFL iBT: 106
	GRE Verbal: 153, Quantitative: 168