

Qiao Liu – Curriculum Vitae

Address	James H. Clark Center Stanford, CA, 94305	Mobile Phone	(+86) 18810226334
Website	http://kimmo123.me	Email	liu-q16@mails.tsinghua.edu.cn liuqiao@stanford.edu

Research Statement

My research interests lie in various problems in **Biomedical Informatics** and **Computational Biology**. In particular, I am interested in developing machine learning algorithms for interpreting NGS data and biomedical data.

Education

2019.09-Present	Research Scholar - Stanford University, Stanford, USA Department of Statistics, advised by Prof. Wing Hung Wong (NAS member) Developing statistical and ML algorithms for decoding human genome
2016.09-2020.06	Ph.D. candidate in Control Science and Engineering - Tsinghua University, Beijing, China Department of Automation, advised by tenured Assoc. Prof. Rui Jiang Tsinghua National Laboratory for Informatics and Technology (TNLIST)
2015.08-2016.01	Exchange Student - Lund University, Lund, Sweden Department of Computer Science GPA: 5.0/5.0
2012.09-2016.06	Bachelor in Engineering - Beihang University, Beijing, China ShenYuan Honors College (formerly School of Advanced Engineering) GPA: 91.5/100 , Rank: 2/50

Internships

2019.06-2019.09	Research Intern - SenseTime Inc, Beijing, China AI+Healthcare, mentored by Dr. Mu Zhou Developing ML algorithms for drug sensitivity prediction and novel drug discovery
2015.09-2015.12	Undergraduate Intern - LUGG Lab, Lund, Sweden Lund University Graphics Group, advised by Assoc. Prof. Michael Doggett Developing and maintaining RenderChimp graphics applications platform

Publications

- Liu Q**, Hu Z, Zhou M. Cancer drug response prediction via a hybrid graph convolutional network[C]. *Proceedings of the AAAI Conference on Artificial Intelligence*. 2019. (under review)
- Xu C, **Liu Q**, Feng J, Jiang T. Quantifying functional impacts of regulatory variants with multi-task Bayesian neural network[J]. *Bioinformatics* 2019.
- Liu Q**, Wong W H, Jiang R. Incorporating gene expression in genome-wide prediction of chromatin accessibility via deep learning[J]. *Nucleic acids research*, 2019. (submitted)
- Chen P*, **Liu Q***, Lv H, Fei X. Automatically structuring on Chinese ultrasound report of cerebrovascular diseases via natural language processing[J]. *IEEE Access*, 2019, 7: 89043-89050. (Co-first author, Q1)

5. Song S, Cui H, **Liu Q**, Jiang R. EpiFIT: Functional interpretation of transcription factors based on combination of sequence and epigenetic information[J]. *Quantitative Biology*, 2019, 1-11.
6. **Liu Q**, Lv H, Jiang R. hicGAN infers super resolution Hi-C data with generative adversarial networks. *ISMB/ECCB, Bioinformatics*, 2019, 35(14): i99-i107. (conference acceptance rate:18.9%, Q1)
7. Yin Q, Wu M, **Liu Q**, Jiang R. DeepHistone: a deep learning approach to predicting histone modifications[J]. *BMC Genomics*, 2019,20(2):193. (Q2)
8. Yang Q, **Liu Q**, LV H. A Decentralized System for Medical Data Management via Blockchain [J]. *Journal of Internet Technology*, 2019. (under review)
9. Liu J, **Liu Q**, Yang Q. A robust approach for estimating parameters during sepciation with gene flow [J]. *Bioinformatics*, 2019. (under review)
10. **Liu Q**, Xia F, Yin Q, et al. Chromatin accessibility prediction via a hybrid deep convolutional neural network[J]. *Bioinformatics*, 2017, 34(5): 732-738. (Q1)
11. **Liu Q**, Gan M, Jiang R. A sequence-based method to predict the impact of regulatory variants using random forest[J]. *BMC Systems Biology*, 2017, 11(2): 7. (Q2)
12. Li B, Lin M, **Liu Q**, et al. Protein folding optimization based on 3D off-lattice model via an improved artificial bee colony algorithm[J]. *Journal of Molecular Modeling*, 2015, 21(10): 261. (Q2)

Invited Talks

2019.11	BIBM 2019 (2019 IEEE International Conference on Bioinformatics & Biomedicine), San Diego, USA
2019.07	ISMB 2019 (The 27th Conference on Intellegent Systems for Molecular Biology), Basel, Switzerland
2019.03	BUAFAI 2019 (The First Beijing Universities Academic Forum of Artificial Intelligence), Beijing, China
2017.01	APBC 2017 (The Fifteenth Asia Pacific Bioinformatics Conference), Shenzhen, China

Honers and Awards

2019.10	The First Class Scholarship , Tsinghua University
2019.04	ISMB Travel Fellowship , International Society for Computational Biology
2018.10	National Scholarship , Ministry of Education of China (7 Ph.D. students in Department of Automation, Tsinghua University)
2017.10	The First Class Scholarship , Tsinghua University
2016.06	Outstanding Graduates of Beijing , Beijing Municipal Commission of Education
2016.06	Outstanding Graduates of Beihang University , Beihang University
2016.05	Rui An First Prize Scholarship , Rui An Inc
2015.10	National Encouragement Scholarship , Ministry of Education of China
2015.06	Microsoft Young Fellowship , Microsoft Research Asia (40 undergraduates among top universities in China)
2014.10	National Encouragement Scholarship , Ministry of Education of China
2013.10	National Encouragement Scholarship , Ministry of Education of China
2012.09	Excellent Freshman Prize , Beihang University

Competitions

2019.03	Liver Cancer Image Diagnose Competition , rank:2/1397, Digital China Innovation Contest, DCIC 2019
2015.01	Honorable Mention in COMAP's Mathematical Contest in Modeling , The American Mathematical Society
2014.10	1st Prize in NCSMC (The 6 th National College Students Mathematical Competition), Chinese Mathematical Society
2014.09	National 1st Prize in CUMCM (Contemporary Undergraduate Mathematical Contest in Modeling), China Society for Industrial and Applied Mathematics

2014.09 1st **Prize in Mathematical Competition**, Beihang University
2013.12 1st **Prize in Physical Competition**, Beihang University
2013.10 1st **Prize in NCSMC**(The 5th National College Students Mathematical Competition),
 Chinese Mathematical Society

Technical Strengths

- **Programming Languages**
 Python,C,Shell,R,Matlab
- **Deep learning software stacks**
 Keras,TensorFlow,TensorLayer,PyTorch,Lasagne,nolearn,Theano
- **Miscellaneous**
 Git,OpenMP,Slurm,Flask,Apache Web Servers,MySQL

Teaching Experiences

2019.02-2019.06 **Teaching Assistant**, Fundamental Industry Training Center, Tsinghua University
Smart Things and Intelligent Systems, Undergraduate Course
2018.09-2019.01 **Teaching Assistant**, Department of Automation, Tsinghua University
Introduction to Artificial Intelligence, Undergraduate Course
2017.09-2018.01 **Teaching Assistant**, Department of Automation, Tsinghua University
Introduction to Artificial Intelligence, Undergraduate Course
2016.08-2016.09 **Teaching Assistant**, Department of Automation, Tsinghua University
Project of Electronic Circuits, Undergraduate Summer Course

Professional Activities

Member of International Society of Computational Biology (ISCB).
 Student member of Institute of Electrical and Electronics Engineers (IEEE).
 Reviewer for *GIW*2018, *ISB*2018, *IDASB*2018.