Wesley Wei Qian

www.wesleyq.me (617)-637-5934 weiqian3@illinois.edu

Education

University of Illinois at Urbana-Champaign | Champaign, IL **AUG 2017-MAY 2022**

Doctor of Philosophy in **Computer Science: Machine Learning & Bioinformatic**

GPA: **4.00** / 4.00

Awards: **University Fellowship, Richard T. Cheng Endowed Fellowship**

Brandeis University | Waltham, MA **SEP 2013-MAY 2017**

Bachelor of Science in **Computer Science** and **Neuroscience**

GPA: **3.96** / 4.00 (Overall) **4.00** / 4.00 (CS)

Awards: **Phi Beta Kappa (Junior), Schiff Fellowship, Collaborative Research Grant, Summa Cum Laude**

Experience

RESEARCH INTERN | GOOGLE **MAY. 2018-PRESENT**

- Work on a genomic project in the Google Accelerated Science Team at Google AI where we want to infer structural variants accurately from short read sequencing data.
- Develop a reliable objective function for structural variants calling, achieve a significant better performance than existing methods, and implement an efficient (100X) framework for re-alignment.

GRADUATE RESEARCH ASSISTANT | UIUC **AUG. 2017-PRESENT**

- Worked on various research topics in bioinformatics and computational chemistry using a data driven neural network approach with Prof. Jian Peng
- Research topics include protein design, protein structure contact prediction, and graph based neural network for molecule property prediction and reaction prediction

SOFTWARE ENGINEERING INTERN | GOOGLE **MAY. 2018-AUG.2018**

- Worked in the Google Accelerated Science Team at Google AI where we collaborated with chemists and biologists in universities/labs to accelerate drug discoveries with image based cell screening
- Developed a Generative Adversarial Network based model remove batch-to-batch effect in cell imaging including dye intensity, imaging device, lighting condition etc. The multi-domains transformation significantly improve downstream analysis by removing the batch effect biases.
- Opened source the implementations and contributed to Tensorflow and Tensorflow Model

SOFTWARE ENGINEERING INTERN | UBER **MAY. 2017-AUG. 2017**

- Investigated different machine learning models to predict couriers' states during food pickup for Uber Eats trip and identified key data quality issues causing underperformance in various models.
- Developed Kernel Conditional Random Field for time-series prediction problem drawing interest from multiple teams and won **the first prize** for Uber's first internal machine learning poster session.

Publication

- **Qian, W.W.**, Xia, C., Venugopalan, S., Narayanaswamy, A., Peng, J., Ando, D.M. (2020). Batch Equalization with a Generative Adversarial Network. *bioRxiv*.
- **Qian, W. W.**, Russell, N. T., Simons, C. L., Luo, Y., Burke, M. D., & Peng, J. (2020). Integrating Deep Neural Networks and Symbolic Inference for Organic Reactivity Prediction. *ChemRxiv*.
- Luo, Y., Vo, L., Ding, H., Su, Y., Liu, Y., **Qian, W.W.**, Zhao, H., & Peng, J. (2020). Evolutionary context-integrated deep sequence modeling for protein engineering. *RECOMB2020*.