Wei Cheng

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EDUCATION

Brown University — Aug 2017 - Present
Ph.D, Computer Science and Computational Biology
Advisor: Sohini Ramachandran

Cornell University — Aug 2014 - May 2016
Bachelor of Science, Computational Biology

China Agricultural University — Aug 2012 - May 2014

RESEARCH EXPERIENCE

Research Assistant — Oct 2016 - Jan 2017
Jian Lu Lab, Peking University

Research Assistant — May 2015 - Sep 2016
Andrew Clark Lab, Cornell University

PUBLICATIONS (*** CO-FIRST AUTHORS**)

[1] **W. Cheng**, G. Darnell, S. Ramachandran, and L. Crawford (2020). Generalizing Variational Autoencoders with Hierarchical Empirical Bayes. *arXiv*:2007.10389

[2] P. Demetci*, **W. Cheng***, G. Darnell, X. Zhou, S. Ramachandran, and L. Crawford (2020). Multi-scale genomic inference using biologically annotated neural networks. *bioRxiv*.184465.

[3] **W. Cheng**, S. Ramachandran, and L. Crawford (2020). Estimation of non-null SNP effect size distributions enables the detection of enriched genes underlying complex traits. *PLOS Genetics*.16(6): e1008855.

SOFTWARE

[1] **BANNs**: Biologically Annotated Neural Networks

[2] **HEBAE**: Hierarchical Empirical Bayes Auto-Encoder

[3] **gene-ε**: A Recalibrated Hypothesis Test for Sets of SNP-Level Summary Statistics

CONFERENCES

"Estimating gene-level effect sizes using summary statistics", *Probabilistic Modeling in Genomics*, Cold Spring Harbor, USA (Nov.2018).

"Epsilon-Genic Effects Bridge the Gap Between Polygenic and Omnigenic Complex Traits", *Probabilistic Modeling in Genomics*, Aussois, France (Oct.2019).

Programming SKILLS

R, Python, Matlab, JAVA, Linux.

COURSES Advanced Probabilistic Methods, Deep Learning, Machine Learning, Computer Vision, Algorithm for Computational Biology, Statistical Inference in Genomics, Programming and Data Structure.

TEACHING **Teaching assistant, Brown University**
Statistical Analysis of Biological Data.