

Liang-Bo Wang

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EDUCATION

Washington University in St. Louis, United States
Ph.D. candidate in Computational and Systems Biology Aug 2016 – (present)

National Taiwan University, Taipei, Taiwan
M.S. in Biomedical Electronics and Bioinformatics Jan 2014 – Jul 2016
B.S. in Electrical Engineering Sep 2009 – Jan 2014
Minor in Economics

AWARDS & SCHOLARSHIPS

McDonnell International Scholars Academy 2016 – Present
Washington University in St. Louis

Outstanding Summer Research Award 2012
Center of Genomic Medicine, National Taiwan University

RESEARCH EXPERIENCE

PhD Thesis, Washington University in St. Louis May 2017 – (present)

- Advisor: Dr. Li Ding
- Topic: Proteogenomic and Spatial Characterization of Glioblastoma Tumors at Bulk and Single Cell Level

Microsoft Research Asia, Beijing, China Jul 2014 – Feb 2015
Internship

- Advisor: Dr. Eric Chang
- Topic: Cancer Image and Pathway Analysis
- Applied convolutional neural network to histopathology image analysis

Biomedical Engineering and Bioinformatics, National Taiwan University
Graduate Research Jan 2014 – Jun 2016

- Advisor: Professor Eric Y. Chuang
- Topic: Integrative analysis of copy number variation, gene expression, and miRNA regulation on cancer; drug treatment prediction on lung cancer cell line

Undergraduate Research Sep 2012 – Jan 2014

- Advisor: Professor Eric Y. Chuang
- Topic: DNA-seq, RNA-seq and small RNA-seq data processing
- Project: Nextbiopsy, a web-based NGS pipeline report generator

Undergraduate Research Sep 2011 – Nov 2012

- Advisor: Associate Professor Wei-Cheng Tian
- Project: CMOS-based tactile sensor system for blood pressure measurement

WORK EXPERIENCE

Pinkoi, Taipei, Taiwan Jun 2015 – Sep 2015
Internship

- Pinkoi is an online marketplace for unique and original design goods in Asia
- Topic: Product search improvement
- Improved Chinese text segmentation on ElasticSearch and added preliminary semantic search built on Word2Vec

PUBLICATIONS

JOURNALS

- [1] **LB Wang***, A Karpova*, MA Gritsenko*, JE Kyle*, S Cao*, Y Li*, *et al.* “Proteogenomic and Metabolomic Characterization of Human Glioblastoma.” *Cancer Cell* (accepted)
- [2] F Petralia, *et al.* “Integrated Proteogenomic Characterization across Major Histological Types of Pediatric Brain Cancer.” *Cell* 183 (7), 1962-1985. Dec 2020
- [3] MH Bailey, *et al.* “Retrospective evaluation of whole exome and genome mutation calls in 746 cancer samples.” *Nature Communications* 11 (1), 1-27. Sep 2020
- [4] MA Gillette, *et al.* “Proteogenomic characterization reveals therapeutic vulnerabilities in lung adenocarcinoma.” *Cell* 182 (1), 200-225. Jul 2020
- [5] O Rozenblatt-Rosen, *et al.* “The Human Tumor Atlas Network: charting tumor transitions across space and time at single-cell resolution.” *Cell* 181 (2), 236-249. Apr 2020
- [6] JE McDermott, *et al.* “Proteogenomic Characterization of Ovarian HGSC Implicates Mitotic Kinases, Replication Stress in Observed Chromosomal Instability.” *Cell Reports Medicine*, 1 (1) 100004. Apr 2020
- [7] DJ Clark, *et al.* “Integrated proteogenomic characterization of clear cell renal cell carcinoma.” *Cell* 179 (4), 964-983. Oct 2019
- [8] GF Gao*, JS Parker*, SM Reynolds*, TC Silva*, **LB Wang***, W Zhou*, *et al.* “Before and After: Comparison of Legacy and Harmonized TCGA Genomic Data Commons’ Data.” *Cell Systems* 9 (1), 24-34. Jul 2019
- [9] SQ Sun, RJ Mashl, S Sengupta, AD Scott, W Wang, P Batra, **LB Wang**, M A Wyczalkowski, L Ding. “Database of evidence for precision oncology portal.” *Bioinformatics* 34 (24), 4315-4317. Jul 2018.
- [10] KL Huang, *et al.* “Pathogenic germline variants in 10,389 adult cancers.” *Cell*, 173 (2), 355-370. e14. Apr 2018.
- [11] Y Xu, Z Jia, **LB Wang**, Y Ai, F Zhang, M Lai, I Eric, C Chang. “Large scale tissue histopathology image classification, segmentation, and visualization via deep convolutional activation features.” *BMC Bioinformatics*, 18 (1), 281. Dec 2017.
- [12] YP La*, **LB Wang***, WA Wang*, LC Lai, MH Tsai, TP Lu, E Y Chuang. “iGC—an Integrated Analysis Package of Gene Expression and Copy Number Alteration.” *BMC Bioinformatics*, 18 (1), 35. Jan 2017.
- [13] **LB Wang**, E Y Chuang, TP Lu. “Identification of predictive biomarkers for ZD-6474 in lung cancer.” *Translational Cancer Research*, 4 (4), 324-331. Aug 2015.
- [14] CY Lee*, YC Chiu*, **LB Wang***, YL Kuo*, EY Chuang, LC Lai, MH Tsai. “Common applications of next-generation sequencing technologies in genomic research.” *Translational Cancer Research*, 2 (1), 33-45. Feb 2013.

CONFERENCE PAPERS

- [1] **LB Wang**, SY Dai, TP Lu, LC Lai, MH Tsai, E Y Chuang. “Nextbiopy: Utilities for next-generation sequencing data processing”, *9th Asian Pacific Conference on Medical and Biological Engineering (APCMBE)*, Tainan, Taiwan, Oct 2014.
- [2] CY Lee*, **LB Wang***, MH Tsai, LC Lai, E Y Chuang. “Identification of novel miRNAs in breast data of the next generation sequencing using miRDeep2 and Galaxy”, *AACR 104th Annual Meeting*, Washington, DC, U.S.A., Apr 2013.
- [3] YC Lin, CJ Hsieh, **LB Wang** (presenter), JC Liou, WC Tian. “CMOS MEMS metal-based tactile sensors development”, *AVS 59th International Symposium & Exhibition*, Florida, U.S.A., Oct 2012.
- [4] CT Sun, YC Lin, CJ Hsieh, JC Liou, **LB Wang**, WC Tian. “A linear-response CMOS-MEMS capacitive tactile sensor”, *IEEE Sensors 2012*, Taipei, Taiwan, Oct 2012.

PROGRAMMING SKILLS

LANGUAGES

Python (both scientific and web stack), R, Web frontend (HTML/CSS/Javascript), SQL, C

COMMUNITY ENGAGEMENT

PyCon Taiwan Organizing Committee, Taipei, Taiwan Jul 2015 – Jul 2016
Program Committee Chair

PyCon APAC Organizing Committee, Taipei, Taiwan 2014, 2015
Public Relations Manager

Open Source Communities, Taipei, Taiwan 2013 – 2016
Regular Speaker

- Including Taiwan PyCon, Taipei.py, Taiwan R User Group, and PyCon China
- Gave over 10 talks, topics included convolutional neural network, text search, HDF5, parallel computing, and R ggplot2 plotting.

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