WEI LI

POSTDOC RESEARCH FELLOW
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EDUCATION

Computer Science, Ph.D., University of California, Riverside, Riverside, CA	Sept. 2008 – Jun. 2012
Computer Science, Bachelor/Master of Engineering, Tsinghua University, Beijing, PRC	Sept. 2002 – Jun. 2008

EXPERIENCE

Postdoc Research Fellow, Dana-Farber Cancer Institute (DFCI) and Harvard School of Public Health (HSPH)
Sept. 2012 - current

Developing computational methodology for processing, integrating and interpreting high-throughput genomic data (especially next-generation sequencing data like ChIP-Seq and RNA-Seq), and its applications in biomedical and cancer research.

Research Intern, Novartis Institutes for Biomedical Research (NIBR)
Jun. - Sept., 2011

The 2nd Ph.D. intern since NIBR established in Emeryville, CA. Large-scale RNA-Seq analysis over 4 TB data of over 100 cancer patients, including differential gene, transcript, alternative splicing, fusion detection and survival analysis. Successfully identified several genes as potential drug targets in squamous cell carcinoma and breast cancer.

Teaching & Research Assistant (University of California, Riverside)
Oct. 2008 – Jun. 2012

RNA-Seq transcriptome assembly and imaging analysis. Developed a DNA identification tool in image processing by building a novel mathematical EM model, and two RNA-Seq assembly algorithms using combinatorial and machine learning approaches. Three research papers appear in IEEE BIBE 2010, RECOMB 2010&2011.

Teaching & Research Assistant (Tsinghua University)
May 2006 – May 2008

Developed machine learning tools to predict the activity of several inhibitors of COX-2 (a key enzyme in human inflammatory pathway) in a traditional Chinese medicine research project. Developed a MCMC self-localization algorithm on a mini LINUX-based robot in a robot project. Two research papers published.

PUBLICATIONS

Conference proceedings

[1] Wei Li, Jianxing Feng, Tao Jiang. *IsoLasso: A LASSO Regression Approach to RNA-Seq Based Transcriptome Assembly*. Research in Computational Molecular Biology (RECOMB 2011). Lecture Notes in Computer Science, 6577:167-188.

[2] Wei Li, Paul Ruegger, James Borneman, Tao Jiang. *Polony Identification Using the EM Algorithm Based on a Gaussian Mixture Model*. IEEE International Conference on BioInformatics and BioEngineering (BIBE 2010), 220-225.

[3] Jianxing Feng, Wei Li, Tao Jiang. *Inference of isoforms from short sequence reads*. Research in Computational Molecular Biology (RECOMB 2010). Lecture Notes on Computer Science, 6044:138-157.

[4] Wei Li, *et al. COX-2 activity prediction in Chinese medicine using neural network based ensemble learning methods*. International Joint Conference on Neural Networks (IJCNN 2008), pp. 1853.

[5] Wei Li, *et al. SVM feature selection and sample regression for Chinese medicine research*. 2008 International Conference on Information and Antomation (ICIA 2008), pp. 1773.

Journals

[6] Wei Li, Jianxing Feng, Tao Jiang. *IsoLasso: A LASSO Regression Approach to RNA-Seq Based Transcriptome Assembly*. Journal of Computational Biology, 18(11):1693-1707,Nov. 2011. (Journal version of [1])

[7] Jianxing Feng, Wei Li, Tao Jiang. *Inference of isoforms from short sequence reads*. Journal of Computational Biology, 18(3):305-321, Mar. 2011. (Journal version of [3])

[8] Wei Li and Tao Jiang. Transcriptome Assembly and Isoform Expression Level Estimation from Biased RNA-Seq Reads. Bioinformatics (2012) 28(22):2914-2921.

[9] Paul M. Ruegger, Elizabeth Bent, Wei Li, Daniel R. Jeske, Xinping Cui, Jonathan Braun, Tao Jiang, James Borneman. Improving Oligonucleotide Fingerprinting of rRNA Genes by Implementation of Polony Microarray Technology. Journal of Microbiological Methods (2012) 90(3):235-240.

ACTIVITIES & AWARDS

IEEE ICCABS conference Travel Award, 2012
Graduate Division Fellowship Award, University of California, Riverside, 2008-2009
Tsinghua University Student Art Group Fellowship, 2005
Tsinghua University Academic Career Fellowship, 2004
Captain, Tsinghua University Military Band Freshman Division, 2006-2007
Vice-Captain, Tsinghua University Military Band, 2004-2005
Freshman Excellence Scholarship, Tsinghua University, 2002 (ranked top in Guangdong college entrance exam)