Dechao Tian

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An euthusiast of statistics and data science, hold a doctor's degree in statistics, have rich experience of applying various statiscial models and machine learning algorithms.

PROFESSIONAL EXPERIENCE

CARNEGIE MELLON UNIVERSITY, USA
Postdoctoral Research Associate, 2015 - Present

- Develop high-dimensional machine learning algorithms for genomics
- Develop novel statistical models for genomics
- Perform data analysis by applying multiple statistical models
- Write up sample size calculation and power analysis for grant application

NATIONAL UNIVERSITY OF SINGAPORE, SINGAPORE
Research Assistant, 2014 - 2015

- Develop machine learning algorithm for biological networks

SINGAPORE EYE RESEARCH INSTITUTE (SERI), SINGAPORE
Part-Time Statistician, 2011 - 2015

- Provide statistical analysis and consultation for the Proteomics & Microanalysis Laboratory
- Collaborate with other members from SERI

EDUCATION

NATIONAL UNIVERSITY OF SINGAPORE, SINGAPORE
Ph.D. in Statistics and Applied Probability, 2010 - 2015

NORTHEAST NORMAL UNIVERSITY, CHINA
M.S. in Probability and Mathematical Statistics, 2009 - 2011

NORTHEAST NORMAL UNIVERSITY, CHINA
B.S. in Mathematics and Applied Mathematics, 2005 - 2009

PUBLICATIONS

12. MOCHI enables discovery of heterogeneous interactome modules in cell nucleus. Submitted.
11. Diffdomains: model-based identification of significantly reshaped chromatin domains from Hi-C contact matrices between normal and disease conditions. In Preparation.
10. Exploiting the interplay between chromatin interactome and transcriptional regulatory network. In Preparation.
9. Identifying gene regulatory network rewiring using latent differential graphical models. Nucleic Acids Research.
8. Retinal vein occlusion in a multi-ethnic asian population: the singapore epidemiology of eye disease study. Ophthalmic Epidemiology.
7. Plasma metabonomic profiling of diabetic retinopathy. Diabetes.

6. Ex vivo propagation of human corneal stromal “activated keratocytes” for tissue engineering. Cell Transplantation.
5. Global metabonomic and proteomic analysis of human conjunctival epithelial cells (IOBA-NHC) in response to hyperosmotic stress. Journal of Proteome Research.
4. Quantitation of 47 human tear proteins using high resolution multiple reaction monitoring (HR-MRM) based-mass spectrometry. Journal of Proteomics.
3. Profiling human cell-type specific transcription factor regulatory networks. Nucleic Acids Research.
2. Involvement of GABA transporters in atropine-treated myopic retina as revealed by iTRAQ quantitative proteomics. Journal of Proteome Research.
1. Sharp bounds and normalization of wiener-type indices. PLOS ONE.

SKILLS AND LIMI

- Data analysis, R, Python scikit-learn, SAS
- Programming (Most used first), Python, Bash, Matlab, SAS
- Biological database, 4D Nucleome Data, UCSC Genome Browser, ENCODE, TCGA, Roadmap
- Language, English (using it as daily and working language for 8 years), Chinese (native)

CERTIFICATE

- Base Programmer for SAS 9

HOBBIES

- Long-distance running
- Tennis