San Zhang

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EDUCATION

20xx.8 - Present	**Tsinghua University** Undergraduate at Dept. of Automation, School of Information Science and Technology
20xx.8 – 20xx.6	**No.2 Senior High School of Tai'an** Senior high school student

RESEARCH INTEREST

Computational Biology, Machine Learning, Differential Privacy

PUBLICATIONS

San Zhang, Si Li, *XXX*, 20xx July 1; 11(11): i123–i134. Proceedings of 21st Annual International Conference on Intelligent Systems for Molecular Biology (ISMB), Berlin, Germany, July 20xx. (link)

RESEARCH EXPERIENCE

20xx.7 - present   *De novo* **ChIP-seq analysis for discovering binding motifs**
Advisor: Professor AAA, School of Computer Science, Carnegie Mellon University
- Proposed and tested a pipeline for discovering TF binding motifs by *de novo* ChIP-seq assembly (without reference genome);
- Generated motifs for both sea urchin and sea star from ChIP-seq data to study the evolution of TF binding specificity;
- Significantly distinguished from previous models using reference genome to discover binding motifs.

20xx.12- present   **Privacy preserving mechanism design for answering online database queries**
Advisor: Professor BBB, Department of Machine Intelligence, Peking University
- Working on a comment paper of a privacy preserving mechanism, PMW mechanism;
- Investigated into the mathematical definition of differential privacy and proposed a new definition of privacy.

20xx.9 – 20xx.3   **Drug-target interaction prediction using deep belief nets**
Advisor: Professor CCC, Institute for Interdisciplinary Information Sciences, Tsinghua University
- The first attempt to apply machine learning techniques in predicting multiple types of drug-target interactions (DTIs) using drug-target interaction network;
- The paper was accepted for the Name of the Conference (year) (**first author**);
- Achieved excellent performance, the AUPR value of predicting direct interactions in MATADOR database is approximately 90%.

20xx. 2 - 20xx. 6   **Social network analysis: developing algorithms for recommendation systems**
Advisor: Professor DDD, Department of Automation, Tsinghua University
- Designed the core algorithm of a real web service about recommending notification based on the social network data;
- Elected as a member of Sparks xx program based on the performance of this project.

READING LIST

Read carefully
- Trevor Hastie, Robert Tibshirani, Jerome Friedman. The Elements of. Statistical Learning: Data

Mining, Inference, and Prediction (second edition)

Overview

- George Casella, Roger L. Berger. Statistical Inference (second edition)
- Kevin Leyton-Brown. Essentials of Game Theory: A Concise, Multidisciplinary Introduction
- Matthew O. Jackson. Social and Economic Network
- Richard Durbin, Sean R. Eddy, Anders Krogh, Graeme Mitchison. Biological Sequence Analysis: Probabilistic Models of Proteins and Nucleic Acids
- *PLOS Computational Biology*: Translational Bioinformatics

AWARDS & HONORS

- Tsinghua Innovation and Technology Scholarship, 20xx. 9
- Sparks xx, Tsinghua Innovative Students Cultivating Program (the Spark Program), 20xx. 6
     64 selected from more than 3,000 sophomores. (click here for introduction)
- Third Prize of Social Practice, 20xx. 9
- Tsinghua Pingan scholarships, 20xx. 9
- The First Prize, xx[th] Chinese Physics Olympiad (CPhO), 20xx.10

PROGRAMMING SKILLS

Proficiency in Java, C, C++.
Intermediate Python, Javascript, PHP, MATLAB.

RELATED COURSES

20xx-Spring	Introduction to Artificial Intelligence	89
20xx-Fall	Machine Learning	84
20xx-Spring	Stochastic Mathematical Methods	99 (rank 1)
20xx-Fall	Data Structure	91
20xx-Spring	Multi-variable Calculus	97 (rank 4)
20xx-Fall	Algebra and Geometry(1)	99 (rank 2)
20xx-Fall	Computer Language and programming	96
20xx-Fall	Calculus	93

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