Curriculum Vitae of Mr. TIAN,Zonglin

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Education

- Utrecht University(UU), *world universities ranking ARWU49/THE75;* *2019.11-2023.11*
  Department of Information and Computing Sciences;
  Degree: Ph.D. in Visual Analytics;
  Supervisor: Prof. Alexandru C. Telea;
  Research Area: Effective multidimensional projections.
- Northeastern University(NEU), *national key university of Program 985;* *2016.9-2019.6*
  School of Computer Science and Engineering;
  Degree: Master of Engineering;
  Supervisor: Prof. Yubin Bao;
  Research Area: Information Visualization, Bioinformatics.
- Huazhong Agricultural University(HZAU), *national key university of Project 211;* *2012.9-2016.6*
  College of Informatics; Major: Computer Science and Technology;
  Degree: Bachelor of Engineering;
  Supervisor: A/Prof. Jianxiao Liu;
  Research Area: Biological data processing, Data Mining.

Technical Skills

Functional Programming(e.g. Scala), Object Oriented Programming(e.g. Java)
Web development framework(e.g. SpringBoot), Front-end(e.g. JavaScript)
Hadoop, Spark(especially GraphX), Cluster Management, General Database(e.g. Oracle)
About Visualization (Software: e.g. Gephi; Language: e.g. R, Python)
Now working on NVIDIA & CUDA using C++.

Publications

- Liu J, Tian Z, Xiao Y, Liu H, Yan J, et al. Gene Regulatory Relationship Mining Using Improved Three-Phase Dependency Analysis Approach[J]. *IEEE/ACM Transactions on Computational Biology & Bioinformatics*. DOI 10.1109/TCBB.2018.2872993
- Liu J, Tian Z, Liu Y, et al. Research of Web Service Recommendation Using Bayesian Network Reasoning[C]// *International Conference on Services Computing*. Springer, Cham, 2018:19-35. DOI: 10.1007/978-3-319-94376-3_2

  Liu J, Tian Z. Verification of Three-Phase Dependency Analysis Bayesian Network Learning Method for Maize Carotenoid Gene Mining[J]. *Biomed Research International*, 2017, 2017(8):1-10.

  DOI: 10.1155/2017/1813494, IF=2.58
- Liu J, Tian Z, Liu P, et al. An Approach of Semantic Web Service Classification Based on Naive Bayes[C]// *IEEE International Conference on Services Computing*. IEEE, 2016:356-362. DOI: 10.1109/SCC.2016.53
- Liu H, Wang F, Xiao Y, Tian Z, Wen W, & Zhang X, et al. MODEM: multi-omics data envelopment and mining in maize[J]// *Database the Journal of Biological Databases & Curation*, 2016, 2016:baw117. DOI: 10.1093/database/baw117, IF=3.51
- Liu J, Ning D, Xing K, Tian Z, Liu P, & Liu F. Web Service Aggregation Platform Implementation Based on Join Operation[C]// *International Conference on Advances in Mechanical Engineering and Industrial Informatics*. 2015. DOI: 10.2991/ameii-15.2015.208
- Liu J, Feng Z, Tian Z, et al. Research on Service Organization Based on Decorator Pattern[M]// *Collaborative Computing: Networking, Applications, and Worksharing*. Springer International Publishing, 2015.. DOI: 10.1007/978-3-319-28910-6_9

Research & Engineering Experiences

- Visualization of Large-scale Social Network Data *2017.9-2019.5*

  We want to design a rapid, efficient and comprehensible visualization solution for large-scale social network data. In order to adapt to the data size, GraphX was used to calculation; therefore, the force-directed layout algorithm was redesigned to match Spark's running mechanism. In addition, we tried to accelerate the visualization process of data through strategies such as layering, sample and window movement. This process is still being designed and optimized. The project is financially supported by the *National Natural Science Foundation of China, No. 61602103*.

  Research Advisor: Prof. Yubin Bao, Lecturer. F.L. Leng

- Genetic Mining Method Based on TPDA and Its Application *2017.4-2018.9*

  We improved the Three-Phase Dependency Analysis algorithm to rebuild the regulatory relationships of genes, and made a lot of comparison experiments with other eight existing algorithms. Eventually we applied it to the genetic analysis of maize and carotenoid. This research is supported by the *National Natural Science Foundation of China, No. 31601078*.

  Research Advisor: A/Prof. Jianxiao Liu

- Sub-system of Liaoning Fishery Data Center Construction *2017.4-2018.5*

  The purpose of this project is to build a big data platform of data integration. I was in charge of the data collection of whole system, including the acquisition and decoding of AIS/BDS real-time location information, database design, data distribution and integration management. At the start of the project, I also researched the solution of real-time big data processing, and finally built a small distributed system with about three components (Flume and Kafka/ Storm/ Hbase or Redis). Above projects are commissioned by the *Department of Ocean and Fisheries of Liaoning Province, P.R.China*.

  Engineering Research Advisor: Prof. Ge Yu

- Water Environmental Protection Management System *2017.3-2017.9*

  The whole project includes three parts: data management, GIS interaction and data visualization. The first part is similar to the traditional CRUD management system, while the second part is based on ArcGIS. The final system adopts the SSM framework, which can provide efficient and stable data management and visualization. The project is commissioned by the *Department of Envorimental Protection of Liaoning Province, P.R.China*.

  Engineering Research Advisor: Prof. Yubin Bao

- Research on Web Service Technology for Data Mining and Analysis of Maize *2014.3-2015.8*

  We established a platform called 'MODEM' which includes a database of maize multidimensional histology and the corresponding analysis tools. This project involves about database query, gene analysis and data interaction. In this project, we also developed a website (MaizeMeeting) for the first maize biology seminar of China. Above projects are financially supported by *Innovation Training Plan of University Student (ITPUS), No. 201410504064*.

  Research Advisor: A/Prof. Jianxiao Liu

Others

- Chinese Government Scholarship (2019-2023): No.201906080046
- Patents: CN203873273U and CN109411023A
- Software Copyright: No.2017SR128806
- GitHub: github.com/TianZonglin
- ResearchGate: researchgate.net/profile/Zonglin_Tian
- ORCID: orcid.org/0000-0001-5626-402X
- Personal Website (Blog): cz5h.com
- Google Scholar: Zonglin Tian