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性别：男

所在单位：计算机与软件学院

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个人简介

学习与工作经历：

学习经历：

2001-2005

南京航空航天大学，计算机科学与技术，本科；

2005-2007

南京航空航天大学，计算机科学与技术，硕士；

2007-2011

南京航空航天大学，计算机科学与技术，博士；

出国经历：

2013.1-2015.1： 加拿大西安大略大学医学生物物理学系数字图像组，以及计算

机科学系Charles X. Ling教授数据挖掘以及商业智能组做博士

后研究

2016.8-2017.8： 美国德克萨斯州立大学Arlington分校，Heng Huang组做博后

2017.9-2018.7： 美国匹兹堡大学，Heng Huang组做博后

工作经历：

2010-至今： 南京信息工程大学计算机与软件学院，教授

荣誉职位：

2020.7-至今 加拿大西安大略大学(世界排名200左右)计算机科学系，兼职教授(可以和Charles X. Ling院士联合招生)

社会兼职：

IEEE member;

IEEE Transaction on Neural Networks and Learning Systems, Machine Learning, Neural Networks, Information Science, IEEE Transactions on Knowledge and Data Engineering

审稿人

研究领域和方向：

研究兴趣主要是机器学习、商业智能分析以及医疗图像分析，具体包括机器学习中的优化方法（支持向量机的增量式学习、大数据学习、模型选择、稀疏化学习），代价敏感学习、引入先验知识的学习以及在商业智能以及医疗图像分析中的应用。



学生培养介绍:

目前人工智能的发展之一是让计算机模拟人的经验学习能力。机器学习主要研究经验学习使得机器具备经验学习能力。目前机器学习在产业界得到空前的应用。我们目前主要对机器学习中主流算法进行理论研究, 以及产业化应用。

实验室目前招收本科实习生、硕士以及博士生, 欢迎对机器学习有兴趣的学生与我联系。适合本实验室的学生应具备的基本特征如下:

1. 品行端正, 诚实守信
2. 对机器学习, 人工智能有兴趣
3. 能吃得了苦, 坐得了板凳

注: 编程, 数学(线性代数, 统计, 优化理论), 英语能力好是加分项, 不是必需项。

学生成绩:

• 恭喜施万里(博一学生)以第一作者完成的“Improved Penalty Method via Doubly Stochastic Gradients for Bilevel Hyperparameter Optimization”文章在人工智能顶级会议AAAI 2021录用。

• 恭喜吴惠敏(研一学生)以第一作者完成的“Fast and Scalable Adversarial Training of Kernel SVM via Doubly Stochastic Gradients”文章在人工智能顶级会议AAAI 2021录用。

• 恭喜施万里(研二学生)以第一作者完成的“Semi-Supervised Multi-Label Learning from Crowds via Deep Sequential Generative Model”文章在数据挖掘顶级会议KDD 2020 research track录用。

• 恭喜施万里(研二学生)以第一作者完成的“Quadruply Stochastic Gradient Method for Large Scale Nonlinear Semi-Supervised Ordinal Regression AUC Optimization”文章在人工智能顶级会议AAAI 2020录用。

• 恭喜翟周(研一学生)以第一作者完成的“Safe Sample Screening for Robust Support Vector Machine”文章在人工智能顶级会议AAAI 2020录用。

• 恭喜耿祥(研二学生)在人工智能顶级会议IJCAI 2019发表论文, 并成功完成talk汇报。

• 恭喜施万里(研一学生)在人工智能顶级会议IJCAI 2019发表论文, 并成功完成talk汇报。

• 恭喜於舒扬(大二访问学生), 宁鲲鹏(大三访问学生)在数据挖掘顶级会议KDD 2019发表Research Track论文。

科研成果:

近年来主要承担的科研项目

2016.1-2019.12 2016.1-2019.12 针对来自众包的大数据支持向量机研究, 国家自然科学基金面上项目, 主持

2013.1-2015.12 2013.1-2015.12 精确的增量式支持向量机的研究, 国家自然科学基金青年项目, 主持.

2012.2-2013.12 2012.2-2013.12 精确的增量式支持向量机的研究与应用, 南京信息工程大学科研启动基金, 主持.

2007.9-2008.7 基于服务架构的民航公众信息服务平台, 国家863重点课题, 参与.

代表性科研成果

发表多篇机器学习领域SCI一区期刊论文(如IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Neural Networks and Learning Systems), 机器学习顶级会议 (NIPS, ICML), 数据挖掘顶级会议 (KDD) 人工智能顶级会议 (AAAI, IJCAI) 论文

[58]Huimin Wu, Bin Gu, Zhengmian Hu, Heng Huang. Fast and Scalable Adversarial Training of Kernel SVM via Doubly Stochastic Gradients. AAAI 2021. (accepted)(CCF A类)

[57]Wanli Shi, Bin Gu, Heng Huang. Improved Penalty Method via Doubly Stochastic Gradients for Bilevel Hyperparameter Optimization. AAAI 2021. (accepted)(CCF A类)

[56]Bin Gu, Wenhan Xian, Zhouyuan Huo, Cheng Deng and Heng Huang. A Unified q -Memorization Framework for Asynchronous Stochastic Optimization. JMLR. (accepted)(CCF A类)

[55]Bin Gu, Zhou Zhai, Cheng Deng, and Heng Huang. Efficient Active Learning by Querying Discriminative and Representative Samples and Fully Exploiting Unlabeled Data. IEEE Transactions on Neural Networks and Learning Systems. (accepted)(SCI一区)

[54]Bin Gu, Xiang Geng, Xiang Li, Wanli Shi, Guansheng Zheng, Cheng Deng, and Heng Huang. Scalable Kernel Ordinal Regression via Doubly Stochastic Gradients. IEEE Transactions on Neural Networks and Learning Systems. (accepted)(SCI一区)

[53]Bin Gu, Xiang Geng, Wanli Shia, Yingying Shana, Yufang Huang, Zhijie Wang, Guansheng Zheng. Solving Large-Scale Support Vector Ordinal Regression with Asynchronous Parallel Coordinate Descent Algorithms. Pattern Recognition. (accepted)

- [52]Runxue Bao, Bin Gu, Heng Huang. Fast OSCAR and OWL with Safe Screening Rules. ICML 2020. (CCF A类)
- [51]Bin Gu, Zhiyuan Dang, Xiang Li and Heng Huang. Federated Doubly Stochastic Kernel Learning for Vertically Partitioned Data. KDD 2020. (CCF A类)
- [50]Wanli Shi,Victor S. Sheng, Xiang Li, Bin Gu. Semi-Supervised Multi-Label Learning from Crowds via Deep Sequential Generative Model. KDD 2020. (CCF A类)
- [49]Wanli Shi,Xiang Li, Bin Gu. Quadruply Stochastic Gradient Method for Large Scale Nonlinear Semi-Supervised Ordinal Regression AUC Optimization. AAAI 2020.(CCF A类)
- [48]Zhou Zhai,Xiang Li, Bin Gu. Safe Sample Screening for Robust Support Vector Machine. AAAI 2020. (CCF A类)
- [47]Runxue Bao, Bin Gu, Heng Huang. Efficient Approximate Solution Path Algorithm for Order Weight L_1 -Norm with Accuracy Guarantee. ICDM 2019.
- [46]Bin Gu, Xiang Geng, Xiang Li, Guansheng Zheng. Efficient Inexact Proximal Gradient Algorithms for Structured Sparsity-Inducing Norm. Neural Networks. (accepted) (SCI一区)
- [45]Bin Gu, Wenhan Xian, Heng Huang. Asynchronous Stochastic Frank-Wolfe Algorithms for Non-convex Optimization. IJCAI 2019. (CCF A类)
- [44]Xiang Geng, Bin Gu, Xiang Li, Wanli Shi, Guansheng Zheng, Heng Huang. Scalable Semi-Supervised SVM via Triply Stochastic Gradients. IJCAI 2019. (CCF A类)
- [43]Wanli Shi, Bin Gu, Xiang Li, Xiang Geng, Heng Huang. Quadruply Stochastic Gradients for Large-Scale Nonlinear Semi-Supervised AUC Optimization. IJCAI 2019. (CCF A类)
- [42]Shuyang Yu, Bin Gu, Kunpeng Ning, Haiyan Chen, Jian Pei and Heng Huang. Tackle Balancing Constraint for Incremental Semi-Supervised Support Vector Learning. KDD 2019. (CCF A类)

- [41]Bin Gu, Yingying Shan, Xin Quan, Guansheng Zheng. Accelerating Sequential Minimal Optimization via Stochastic Sub-Gradient Descent. IEEE Transactions on Cybernetics. (accepted) (SCI一区)
- [40]Feihu Huang, **Bin Gu**, Zhouyuan Huo, Songcan Chen, Heng Huang. Faster Gradient-Free Proximal Stochastic Methods for Nonconvex Nonsmooth Optimization. AAAI 2019. (CCF A类)
- [39]**Bin Gu**, Zhouyuan Huo, Heng Huang. Scalable and Efficient Pairwise Learning to Achieve Statistical Accuracy. AAAI 2019. (CCF A类)
- [38]Zhouyuan Huo, **Bin Gu**, Heng Huang Training Neural Networks Using Features Replay. NIPS 2018. (CCF A类)
- [37]**Bin Gu**, Xin Quan, Yunhua Gu, Victor S. Sheng, Guansheng Zheng. Chunk Incremental Learning for Cost-Sensitive Hinge Loss Support Vector Machine. Pattern Recognition. (accepted) (SCI二区)
- [36]**Bin Gu**, Zhouyuan Huo, Heng Huang. Faster Derivative-Free Stochastic Algorithm for Shared Memory Machines. ICML 2018. (CCF A类)
- [35]Zhouyuan Huo, **Bin Gu**, Qian Yang, Heng Huang. Decoupled Parallel Backpropagation with Convergence Guarantee. ICML 2018. (CCF A类)
- [34]**Bin Gu**, Xiao-Tong Yuan, Songcan Chen, Heng Huang. New Incremental Learning Algorithm for Semi-Supervised Support Vector Machine. **KDD 2018**. (CCF A类)
- [33]**Bin Gu**, Xingwang Ju, Xiang Li, Guansheng Zheng, Heng Huang. Faster Training Algorithms for Structured Sparsity-Inducing Norm. IJCAI 2018 . (accepted) (CCF A类)
- [32]**Bin Gu**, Yingying Shan, Xiang Geng, Guansheng Zheng, Heng Huang. Accelerated Asynchronous Greedy Coordinate Descent Algorithm for SVMs. IJCAI 2018 . (accepted) (CCF A类)

- [31]**Bin Gu**, Zhouyuan Huo, Heng Huang. Asynchronous Doubly Stochastic Group Regularized Learning. AISTATS 2018. (accepted)
- [30]**Bin Gu**, Victor S. Sheng. A Solution Path Algorithm for General Parametric Quadratic Programming Problem. **IEEE Transactions on Neural Networks and Learning Systems**.(accepted) (SCI一区)
- [29]**Bin Gu**. A Regularization Path Algorithm for Support Vector Ordinal Regression. **Neural Networks**, accepted. (SCI一区)
- [28]Xiang Li, Huaimin Wang, Bin Gu, Charles X Ling. The convergence of linear classifiers on large sparse data. Neurocomputing, 2017 (SCI二区)
- [27]**Bin Gu**, De Wang, Zhouyuan Huo, Heng Huang. Inexact Proximal Gradient Methods for Non-convex and Non-smooth Optimization.**AAAI 2018**, accepted. (CCF A类)
- [26]Zhouyuan Huo, **Bin Gu**, Heng Huang. Accelerated Method for Stochastic Composition Optimization with Nonsmooth Regularization, **AAAI 2018**, accepted (CCF A类)
- [25]**Bin Gu**, Xin Miao, Zhouyuan Huo, Heng Huang. Asynchronous Doubly Stochastic Sparse Kernel Learning, **AAAI 2018**, accepted (CCF A类)
- [24]**Bin Gu**, Guodong Liu, Heng Huang. Groups-Keeping Solution Path Algorithm for Sparse Regression with Automatic Feature Grouping. **KDD 2017**. (Oral Presentation, CCF A类)
- [23]Xiang Li, **Bin Gu**, Shuang Ao, Huaiming Wang, Charles X. Ling. Triply Stochastic Gradients on Multiple Kernel Learning, **UAI 2017** (CCF B类).
- [22]Victor Sheng, Jing Zhang, **Bin Gu**, Xindong Wu. Majority Voting and Pairing with Multiple Noisy Labeling.**IEEE Transactions on Knowledge and Data Engineering**. 2017. (CCF A类)

- [21]**Bin Gu**, Victor S. Sheng, Keng Yeow Tay, Walter Romano, and Shuo Li. Cross Validation Through Two-dimensional Solution Surface for Cost-Sensitive SVM. **IEEE Transactions on Pattern Analysis and Machine Intelligence**. 2017. (CCF A类, SCI一区)
- [20]**Bin Gu**, Xinming Su, Victor S. Sheng Structural Minimax Probability Machine. **IEEE Transactions on Neural Networks and Learning Systems**. 2017 (SCI一区)
- [19]**Bin Gu**, Victor S. Sheng. A Robust Regularization Path Algorithm for v-Support Vector Classification. **IEEE Transactions on Neural Networks and Learning Systems**. 2017 (SCI一区)
- [18]**Bin Gu**, Yingying Shan, Victor S. Sheng, and Shuo Li. Sparse Regression with Output Correlation for Cardiac Ejection Fraction Estimation. **Information Sciences**.2017. (SCI二区)
- [17]**Bin Gu**, and Charles Ling. "A New Generalized Error Path Algorithm for Model Selection." **Proceedings of the 32nd International Conference on Machine Learning (ICML-15)**. 2015. (CCF A类)
- [16]**Bin Gu**, Victor S. Sheng, and Shuo Li. Bi-parameter space partition for cost-sensitive SVM. In Proceedings of the Twenty-Fourth International Joint Conference on Artificial Intelligence, **IJCAI 2015**, Buenos Aires, Argentina, July 25-31, 2015, pages 3532–3539, 2015. (CCF A类)
- [15]Xiang Li, Huaiming Wang, **Bin Gu**, Charles X. Ling. Data Sparseness in Linear SVM. **IJCAI 2015**:3628-3634. (CCF A类)
- [14]**Bin Gu**, Victor S. Sheng, Keng Yeow Tay, Walter Romano, and Shuo Li. Incremental Learning for v-Support Vector Regression. **Neural Networks**. 67 (2015): 140-150. (SCI一区)
- [13]**Bin Gu**, Victor S. Sheng, Keng Yeow Tay, Walter Romano, and Shuo Li. Incremental Support Vector Learning for Ordinal Regression. **IEEE Transactions on Neural Networks and Learning**

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[11]Victor S. Sheng, **Bin Gu**, Wei Fang, Jian Wu, Cost-sensitive learning for defect escalation, **Knowledge-Based Systems**, Volume 66, August 2014, Pages 146-155, (SCI二区)

[10]**Bin Gu**, Victor S. Sheng. Feasibility and Finite Convergence Analysis for Accurate On-line ν -Support Vector Learning. **IEEE Transactions on Neural Networks and Learning Systems**, 24(8):1304-1315, 2013. (SCI一区)

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[6] **顾彬**, 郑关胜, 王建东. 增量和减量式标准支持向量机的分析. **软件学报**, 24(7):1601–1613, 2013.

[5] *Bin Gu*, Jian-Dong Wang, and Tao Li. Ordinal-Class Core Vector Machine, *Journal of Computer Science and Technology*. 2010, 25(4): 699–708.

[4] *Bin Gu*, Jian-Dong Wang, and Hai-yan Chen. On-line Off-line Ranking Support Vector Machine and Analysis. In *Proceedings of International Joint Conference on Neural Networks (IJCNN' 08)*, New York: IEEE Press, 2008.

[3] 顾彬, 王建东. 一种新颖的QAR数据特征提取方法. 四川大学学报 (工程科学版), 2011, 3 (43): 113-117.

[2] 顾彬, 王建东. 一类孤立因子阈值的计算方法. 小型微型计算机系统, 2008, 29 (12): 2254-2257.

[1] 徐涛, 丁建立, 顾彬, 王建东. 基于增量式排列支持向量机的机场航班延误预警, 航空学报, 2009, 30(7): 1256-1263.

更多信息请见<https://ssl123141924ecb471a6e0c70732bd329da5f5.vpn.nuist.edu.cn/site/jsgubin/>

荣誉:

其他学术成就:

帮助08奥运数据安全提供商“杭州安恒信息技术有限公司”研发 运维人员偷导数据行为风险预警系统

教育经历

暂无内容

工作经历

暂无内容

社会兼职

暂无内容

研究方向

暂无内容

其他联系方式

暂无内容

团队成员

暂无内容