

SCIS 计算机科学精选文章目录

◇ 热点专题.....	- 1 -
Special Focus on Deep Learning for Computer Vision (2021).....	- 1 -
Special Focus on Weakly Supervised Learning	- 1 -
Special Focus on Constraints and Optimization in Artificial Intelligence	- 2 -
Special Focus on Visual Computing with Machine Learning.....	- 2 -
Special Focus on Deep Learning for Computer Vision (2022).....	- 2 -
◇ 人工智能.....	- 3 -
◇ 生物信息.....	- 9 -
◇ 图形图像.....	- 9 -
◇ 计算机理论.....	- 17 -
◇ 高性能计算.....	- 18 -
◇ 信息安全.....	- 20 -
◇ 社交媒体.....	- 26 -
◇ 软件.....	- 27 -



<识别二维码查看网页版>

✧ **热点专题**

Special Focus on Deep Learning for Computer Vision (2021)

Guest Editors: Xiang BAI, Yanwei PANG, Guofeng ZHANG

Triple discriminator generative adversarial network for zero-shot image classification

Zhong JI, Jiangtao YAN, Qiang WANG, Yanwei PANG & Xuelong LI

Sci China Inf Sci, 2021, 64(2): 120101

Learning efficient text-to-image synthesis via interstage cross-sample similarity distillation

Fengling MAO, Bingpeng MA, Hong CHANG, Shiguang SHAN & Xilin CHEN

Sci China Inf Sci, 2021, 64(2): 120102

PSC-Net: learning part spatial co-occurrence for occluded pedestrian detection

Jin XIE, Yanwei PANG, Hisham CHOLAKKAL, Rao ANWER, Fahad KHAN & Ling SHAO

Sci China Inf Sci, 2021, 64(2): 120103

Task-wise attention guided part complementary learning for few-shot image classification

Gong CHENG, Ruimin LI, Chunbo LANG & Junwei HAN

Sci China Inf Sci, 2021, 64(2): 120104

Learning generalizable deep feature using triplet-batch-center loss for person re-identification

Bin HU, Jiwei XU & Xinggang WANG

Sci China Inf Sci, 2021, 64(2): 120111

Special Focus on Weakly Supervised Learning

Guest Editors: Min-Ling ZHANG, Yu-Feng LI

Learning from group supervision: the impact of supervision deficiency on multi-label learning

Miao XU & Lan-Zhe GUO

Sci China Inf Sci, 2021, 64(3): 130101

Deep multiple instance selection

Xin-Chun LI, De-Chuan ZHAN, Jia-Qi YANG & Yi SHI

Sci China Inf Sci, 2021, 64(3): 130102

Few-shot text classification by leveraging bi-directional attention and cross-class knowledge

Ning PANG, Xiang ZHAO, Wei WANG, Weidong XIAO & Deke GUO

Sci China Inf Sci, 2021, 64(3): 130103

Crowdsourcing aggregation with deep Bayesian learning

Shao-Yuan LI, Sheng-Jun HUANG & Songcan CHEN

Sci China Inf Sci, 2021, 64(3): 130104

Deep graph cut network for weakly-supervised semantic segmentation

Jiapei FENG, Xinggang WANG & Wenyu LIU

Sci China Inf Sci, 2021, 64(3): 130105

Special Focus on Constraints and Optimization in Artificial Intelligence

Guest Editors: Shaowei CAI, Fred W. GLOVER, Minghao YIN, Jian GAO

Focal distance tabu search

Fred GLOVER & Zhipeng LU

Sci China Inf Sci, 2021, 64(5): 150101

Learning dynamics of gradient descent optimization in deep neural networks

Wei WU, Xiaoyuan JING, Wencai DU & Guoliang CHEN

Sci China Inf Sci, 2021, 64(5): 150102

On the robustness of median sampling in noisy evolutionary optimization

Chao BIAN, Chao QIAN, Yang YU & Ke TANG

Sci China Inf Sci, 2021, 64(5): 150103

An approximation algorithm for k-median with priorities

Zhen ZHANG, Qilong FENG, Jinhui XU & Jianxin WANG

Sci China Inf Sci, 2021, 64(5): 150104

Solving diversified top-k weight clique search problem

Junping ZHOU, Chumin LI, Yupeng ZHOU, Mingyang LI, Lili LIANG & Jianan WANG

Sci China Inf Sci, 2021, 64(5): 150105

Special Focus on Visual Computing with Machine Learning

Guest Editors: Kun ZHOU, Xin TONG

Single-view facial reflectance inference with a differentiable renderer

Jiahao GENG, Yanlin WENG, Lvdi WANG & Kun ZHOU

Sci China Inf Sci, 2021, 64(11): 210101

Dual attention autoencoder for all-weather outdoor lighting estimation

Piaopiao YU, Jie GUO, Longhai WU, Cheng ZHOU, Mengtian LI, Chenchen WANG & Yanwen GUO

Sci China Inf Sci, 2021, 64(11): 210102

Weakly supervised 2D human pose transfer

Qian ZHENG, Yajie LIU, Zhizhao LIN, Dani LISCHINSKI, Daniel COHEN-OR & Hui HUANG

Sci China Inf Sci, 2021, 64(11): 210103

iHairRecolorer: deep image-to-video hair color transfer

Keyu WU, Lingchen YANG, Hongbo FU & Youyi ZHENG

Sci China Inf Sci, 2021, 64(11): 210104

Hausdorff point convolution with geometric priors

Liqiang LIN, Pengdi HUANG, Fuyou XUE, Kai XU, Daniel COHEN-OR & Hui HUANG

Sci China Inf Sci, 2021, 64(11): 210105

Special Focus on Deep Learning for Computer Vision (2022)

Guest Editors: Xiang BAI, Yanwei PANG, Guofeng ZHANG, Wangmeng ZUO

Onfocus detection: identifying individual-camera eye contact from unconstrained images

Dingwen ZHANG, Bo WANG, Gerong WANG, Qiang ZHANG, Jiajia ZHANG, Jungong HAN & Zheng

YOU

Sci China Inf Sci, 2022, 65(6): 160101

HAPNet: a head-aware pedestrian detection network associated with the affinity field

Jiali DING, Tie LIU, Yun ZHAO, Zejian YUAN & Yuanyuan SHANG

Sci China Inf Sci, 2022, 65(6): 160102

Progressive learning with multi-scale attention network for cross-domain vehicle re-identification

Yang WANG, Jinjia PENG, Huibing WANG & Meng WANG

Sci China Inf Sci, 2022, 65(6): 160103

TransCrowd: weakly-supervised crowd counting with transformers

Dingkang LIANG, Xiwu CHEN, Wei XU, Yu ZHOU & Xiang BAI

Sci China Inf Sci, 2022, 65(6): 160104

Prototype-based classifier learning for long-tailed visual recognition

Xiu-Shen WEI, Shu-Lin XU, Hao CHEN, Liang XIAO & Yuxin PENG

Sci China Inf Sci, 2022, 65(6): 160105

Comprehensive benchmark datasets for Amharic scene text detection and recognition

Wondimu DIKUBAB, Dingkan LIANG, Minghui LIAO & Xiang BAI

Sci China Inf Sci, 2022, 65(6): 160106

RLLNet: a lightweight remaking learning network for saliency redetection on RGB-D images

Wujie ZHOU, Chang LIU, Jingsheng LEI & Lu YU

Sci China Inf Sci, 2022, 65(6): 160107

Human-object interaction detection via interactive visual-semantic graph learning

Tongtong WU, Fuqing DUAN, Liang CHANG & Ke LU

Sci China Inf Sci, 2022, 65(6): 160108

Few-shot font style transfer with multiple style encoders

Kejun ZHANG, Rui ZHANG, Yonglin WU, Yifei LI, Yonggen LING, Bolin WANG, Lingyun SUN & Yingming LI

Sci China Inf Sci, 2022, 65(6): 160109

❖ 人工智能

Zhou D-W, Wang F-Y, Ye H-J, et al. **PyCIL: a Python toolbox for class-incremental learning**. Sci China Inf Sci, 2023, 66(9): 197101

Keywords: class-incremental learning; lifelong learning; continual learning; Learnware; open environment; catastrophic forgetting; model reuse

Shen Z Y, Yang Y B, She Q, et al. **Newton design: designing CNNs with the family of Newton's methods**. Sci China Inf Sci, 2023, 66(6): 162101

Keywords: CNN; dropout; optimization method; network design; Newton's method

Zhao H W, Liang Z D, He Y S, et al. **Cy-CNN: cylinder convolution based rotation-invariant neural network for point cloud registration**. Sci China Inf Sci, 2023, 66(5): 152102

Keywords: deep learning; point cloud registration; rotation invariant; computer vision

Tang C, Zheng X, Zhang W, et al. **Unsupervised feature selection via multiple graph fusion and feature weight learning**. *Sci China Inf Sci*, 2023, 66(5): 152101

Keywords: unsupervised feature selection; graph fusion; feature weight learning; local structure preservation

Yao B Y, Li G Q, Wu W. **State space representation and phase analysis of gradient descent optimizers**. *Sci China Inf Sci*, 2023, 66(4): 142102

Keywords: optimizer; control model; phase trajectory; parameter adjustment; classification; dynamic performance

Sun H, Li M. **Enhancing unsupervised domain adaptation by exploiting the conceptual consistency of multiple self-supervised tasks**. *Sci China Inf Sci*, 2023, 66(4): 142101

Keywords: deep learning; transfer learning; domain adaptation; domain shift; self-supervised

Li T, Ma J W. **A variational hardcut EM algorithm for the mixtures of Gaussian processes**. *Sci China Inf Sci*, 2023, 66(3): 139103

Keywords: Gaussian processes; EM algorithm; variational inference; mixture model; nonparametric Bayesian

Yu S Q, Han Z, Tang Y D, et al. **Neural network equivalent model for highly efficient massive data classification**. *Sci China Inf Sci*, 2023, 66(3): 139101

Keywords: neural network equivalent model; non-smooth convex optimization; generalization error; massive data classification; ADMM

Yang Z Y, Liang N Y, Li Z N, et al. **A convergence algorithm for graph co-regularized transfer learning**. *Sci China Inf Sci*, 2023, 66(3): 132104

Keywords: transfer learning; convergence analysis; non-negative matrix factorization; multiplicative update algorithm; optimization

Yang W J, Li C Q, Jiang L X. **Learning from crowds with robust support vector machines**. *Sci China Inf Sci*, 2023, 66(3): 132103

Keywords: vector machines crowdsourcing learning; ground truth inference; integrated labels; label noise; robust support

Han Z Y, Cai L-W, Dai W-Z, et al. **Abductive subconcept learning**. *Sci China Inf Sci*, 2023, 66(2): 122103

Keywords: abductive learning; subconcept learning; logical reasoning; subconcept set selection; meta-interpretive learning

Zhang Z, Zhang Y, Guo D, et al. **Communication-efficient federated continual learning for distributed learning system with Non-IID data**. *Sci China Inf Sci*, 2023, 66(2): 122102

Keywords: distributed learning system; federated learning; continual learning; model compression; error compensation

Zhang B, Zhu J, Su H. **Toward the third generation artificial intelligence**. Sci China Inf Sci, 2023, 66(2): 121101

Keywords: artificial intelligence; symbolism; connectionism; dual-space model; single-space model; triple-space model

Guo X X, Han W M, Ren J L. **Design of a prediction system based on the dynamical feed-forward neural network**. Sci China Inf Sci, 2023, 66(1): 112102

Keywords: prediction system; phase space reconstruction; topological equivalence; dynamical feed-forward neural network; integer constrained particle swarm optimization algorithm

Guo L H, Chen D W, Jia K. **Knowledge transferred adaptive filter pruning for CNN compression and acceleration**. Sci China Inf Sci, 2022, 65(12): 229101

Keywords: network compression; network acceleration; filter pruning; knowledge transferred learning; knowledge distillation

Zhang H, Jiang L X, Li C Q. **Attribute augmented and weighted naive Bayes**. Sci China Inf Sci, 2022, 65(12): 222101

Keywords: naive Bayes; attribute augmentation; attribute weighting; attribute conditional independence; classification

Wei T, Wang H, Tu W W, et al. **Robust model selection for positive and unlabeled learning with constraints**. Sci China Inf Sci, 2022, 65(11): 212101

Keywords: positive and unlabeled learning; model selection; automated machine learning

Liu Y-R, Hu Y-Q, Qian H, et al. **ZOOpt: a toolbox for derivative-free optimization**. Sci China Inf Sci, 2022, 65(10): 207101

Keywords: Derivative-free optimization; Hyper-parameter optimization; Non-convex optimization; Distributed optimization; Software

Wan Y Y, Tu W-W, Zhang L J. **Strongly adaptive online learning over partial intervals**. Sci China Inf Sci, 2022, 65(10): 202101

Keywords: online learning; strongly adaptive; changing environments; weighing method; regret bound

Li Y Y, Lu R Q. **Curvature flow learning: algorithm and analysis**. Sci China Inf Sci, 2022, 65(9): 192105

Keywords: metric learning; Riemannian metric; curvature; flow learning; manifold learning

Yang X H, Wang Z, Sun J, et al. **Unlabeled data driven cost-sensitive inverse projection sparse representation-based classification with 1/2 regularization**. Sci China Inf Sci, 2022, 65(8): 182102

Keywords: unlabeled-data driven; 1/2 regularization; cost-sensitive; inverse projection; sparse representation-based classification

Yin X Y, Cui Z, Chang H, et al. **Extending generalized unsupervised manifold alignment**. Sci China

Inf Sci, 2022, 65(7): 172103

Keywords: unsupervised manifold alignment; relaxed integer programming; Frank Wolfe algorithm

Chen C, Wang H F, Zhu Q Q, et al. **Densely-connected neural networks for aspect term extraction**. Sci China Inf Sci, 2022, 65(6): 169103

Keywords: aspect term extraction; recurrent neural network; self-attention; densely-connected network; double word embeddings; aspect-based sentiment analysis; deep learning; sequence labeling

Liu H, Zhang Y, Lian K, et al. **Health care data analysis and visualization using interactive data exploration for sportsperson**. Sci China Inf Sci, 2022, 65(6): 162101

Keywords: artificial intelligence; health monitoring; data visualization; data analysis; athletics

Liang J Y, Liu X L, Bai L, et al. **Incomplete multi-view clustering via local and global co-regularization**. Sci China Inf Sci, 2022, 65(5): 152105

Keywords: incompleteness; multi-view clustering; local clustering; global clustering; co-regularization

Jin T S, Dai H Q, Cao L J, et al. **Deepwalk-aware graph convolutional networks**. Sci China Inf Sci, 2022, 65(5): 152104

Keywords: graph; convolutional networks; global information; fusion; node classification

Bai G R, He S Z, Liu K, et al. **Example-guided stylized response generation in zero-shot setting**. Sci China Inf Sci, 2022, 65(4): 149103

Keywords: example-guided; style; response generation; low-resource; zero-shot

Liu Y L, Chen J, Huang J G. **On book thickness parameterized by the vertex cover number**. Sci China Inf Sci, 2022, 65(4): 140603

Keywords: book thickness; vertex cover number; linear order; 1-page embedding graph; kernel

Yang R Q, Xu D C, Guo L K, et al. **Regularized two-stage submodular maximization under streaming**. Sci China Inf Sci, 2022, 65(4): 140602

Keywords: submodular maximization; streaming model; two-stage; threshold technique; approximation algorithms

Wu X L, Shi F, Guo Y T, et al. **An approximation algorithm for lower-bounded k-median with constant factor**. Sci China Inf Sci, 2022, 65(4): 140601

Keywords: approximation algorithm; k-median; lower-bounded k-median

Cao W M, Zheng C T, Yan Z Y, et al. **Geometric deep learning: progress, applications and challenges**. Sci China Inf Sci, 2022, 65(2): 126101

Keywords: geometric deep learning; manifold deep learning; cnn; graph convolutional neural networks; high-dimensional information

Chen S F, Zhao D J, Zenonos A, et al. **Truthfully coordinating participation routes in informative participatory sensing**. Sci China Inf Sci, 2021, 64(12): 222106

Keywords: coordinating participation routes, informative participatory sensing, incentive mechanism, computationally efficient

Li Y J. **Accelerated value iteration via Anderson mixing**. Sci China Inf Sci, 2021, 64(12): 222105

Keywords: reinforcement learning; q-learning; value iteration; anderson acceleration; deep neural networks

Zhang X C, Qiu X P, Pang J M, et al. **Dual-axial self-attention network for text classification**. Sci China Inf Sci, 2021, 64(12): 222102

Keywords: text classification; dual-axial self-attention; feature-axial dependency

Yang C F, Liu G J, Yan C G, et al. **A clustering-based flexible weighting method in AdaBoost and its application to transaction fraud detection**. Sci China Inf Sci, 2021, 64(12): 222101

Keywords: ensemble learning; adaboost; clustering; misclassification degree; transaction fraud detection

Zhao H H, Li Y H, Liu F W, et al. **State and tendency: an empirical study of deep learning question&answer topics on Stack Overflow**. Sci China Inf Sci, 2021, 64(11): 212105

Keywords: topic model; deep learning; stack overflow; question and answer

Wu W, Jing X Y, Du W C, et al. **Learning dynamics of kernel-based deep neural networks in manifolds**. Sci China Inf Sci, 2021, 64(11): 212103

Keywords: learning dynamics; kernel-based convolution; manifolds; control model; network stability

Li T, Dou Y. **Representation learning on textual network with personalized PageRank**. Sci China Inf Sci, 2021, 64(11): 212102

Keywords: representation learning; network embedding; pagerank; textual network; personalized pagerank

Ma D, Chen S C. **Semi-blind compressed sensing via adaptive dictionary learning and one-pass online extension**. Sci China Inf Sci, 2021, 64(9): 199101

Keywords: compressed sensing; blind compressed sensing; semi-blind compressed sensing; adaptive dictionary learning; incremental learning

Li Z C, Tang J H. **Semi-supervised local feature selection for data classification**. Sci China Inf Sci, 2021, 64(9): 192108

Keywords: local feature selection; label-specific feature; semi-supervised learning; data classification; discriminative feature

Huang G, Ge C J, Xiong T Y, et al. **Large scale air pollution prediction with deep convolutional networks**. Sci China Inf Sci, 2021, 64(9): 192107

Keywords: air pollution prediction; artificial intelligence; convolutional neural network

Fang J M, Chen Y K, Zhang X B, et al. **EAT-NAS: elastic architecture transfer for accelerating large-scale neural architecture search**. Sci China Inf Sci, 2021, 64(9): 192106

Keywords: architecture transfer; neural architecture search; evolutionary algorithm; large-scale dataset

Li L, Wang L L, Lv W F. **Real-time bottleneck matching in spatial crowdsourcing**. Sci China Inf Sci, 2021, 64(8): 189101

Keywords: spatial crowdsourcing; online bottleneck matching; competitive ratio analysis; task assignment; online bipartite matching

Ma N, Li D Y, He W, et al. **Future vehicles: interactive wheeled robots**. Sci China Inf Sci, 2021, 64(5): 156101

Keywords: interactive cognition; evolution growth; wheeled robots; prior knowledge; driving skills

Guo Q P, Qiu X P, Xue X Y, et al. **Syntax-guided text generation via graph neural network**. Sci China Inf Sci, 2021, 64(5): 152102

Keywords: text generation; deep learning; graph neural network; dependency parsing

Shang T, Zhao Z, Ren X J, et al. **Differential identifiability clustering algorithms for big data analysis**. Sci China Inf Sci, 2021, 64(5): 152101

Keywords: differential identifiability; differential privacy; k-means; k-prototypes; big data

Zhan P, Hu Y P, Chen L, et al. **SPAR: set-based piecewise aggregate representation for time series anomaly detection**. Sci China Inf Sci, 2021, 64(4): 149101

Keywords: time series; multi-domain; representation; anomaly detection; data mining

Shan G C, Wang H Y, Liang W, et al. **Robust encoder-decoder learning framework for offline handwritten mathematical expression recognition based on a multi-scale deep neural network**. Sci China Inf Sci, 2021, 64(3): 139101

Keywords: encoder-decoder; multi-scale; attention; handwritten mathematical expression recognition; attention recurrent neural network; dense network

Zhao S-Y, Xie Y-P, Li W-J. **On the convergence and improvement of stochastic normalized gradient descent**. Sci China Inf Sci, 2021, 64(3): 132103

Keywords: non-convex problems; stochastic normalized gradient descent; computation complexity

Feng J P, Wang X G, Liu W Y. **Deep graph cut network for weakly-supervised semantic segmentation**. Sci China Inf Sci, 2021, 64(3): 130105

Keywords: semantic segmentation; weakly-supervised learning; semi-supervised learning; graph cut

Li S-Y, Huang S-J, Chen S C. **Crowdsourcing aggregation with deep Bayesian learning**. Sci China Inf Sci, 2021, 64(3): 130104

Keywords: crowdsourcing; classification; fully bayesian deep generative models; natural gradient;

stochastic variational inference

Pang N, Zhao X, Wang W, et al. **Few-shot text classification by leveraging bi-directional attention and cross-class knowledge**. Sci China Inf Sci, 2021, 64(3): 130103

Keywords: text classification; meta-learning; few-shot learning; bi-directional attention; cross-class knowledge

Li X-C, Zhan D-C, Yang J-Q, et al. **Deep multiple instance selection**. Sci China Inf Sci, 2021, 64(3): 130102

Keywords: multiple instance learning; instance selection; gumbel softmax; variance normalization; hard attention

Xu M, Guo L-Z. **Learning from group supervision: the impact of supervision deficiency on multi-label learning**. Sci China Inf Sci, 2021, 64(3): 130101

Keywords: multi-label learning; weakly supervised learning; weakly supervised multi-label learning; query strategy; group supervision

Wang R, Shen M M, Wang X Y, et al. **RGA-CNNs: convolutional neural networks based on reduced geometric algebra**. Sci China Inf Sci, 2021, 64(2): 129101

Keywords: convolutional neural networks; cnns; reduced geometric algebra; rga; multivectors; learning algorithm; multi-dimensional data

Zhang F, Wang W D, Hou J Y, et al. **Tensor restricted isometry property analysis for a large class of random measurement ensembles**. Sci China Inf Sci, 2021, 64(1): 119101

Keywords: compressed sensing; low rank tensor recovery; tensor restricted isometry property; machine learning; tensor sparsity

Zhou Z-H. **Why over-parameterization of deep neural networks does not overfit?**. Sci China Inf Sci, 2021, 64(1): 116101

Keywords: deep neural networks; perspective; ai; over-parameterization; machine learning

✧ 生物信息

Lei X J, Zhang W X. **Logistic regression algorithm to identify candidate disease genes based on reliable protein-protein interaction network**. Sci China Inf Sci, 2021, 64(7): 179101

Keywords: disease genes; logistic regression algorithm; multiple biological data; topological similarity of heterogeneous network; reconstructed ppi network

Wang S K, Zhao K, Liu M, et al. **Using breath sound data to detect intraoperative respiratory depression in non-intubated anesthesia**. Sci China Inf Sci, 2021, 64(3): 134101

Keywords: respiratory depression detection; breath sound; hilbert spectrum; time-energy dual scale normalization; svm

✧ 图形图像

Yue Y H, Zou Q, Yu H K, et al. **An end-to-end network for co-saliency detection in one single image**. *Sci China Inf Sci*, 2023, 66(11): 210101

Keywords: saliency detection; convolutional neural network; regional feature mapping; co-saliency detection; deep learning

Yu H, Wu J X. **A unified pruning framework for vision transformers**. *Sci China Inf Sci*, 2023, 66(7): 179101

Keywords: vision transformer; structural pruning; image classification; object detection; language modeling

Wang W, Dong Q L, Hu Z Y. **ASPPR: active single-image piecewise planar 3D reconstruction based on geometric priors**. *Sci China Inf Sci*, 2023, 66(7): 174101

Keywords: single-image reconstruction; geometric prior; user interaction; multi-plane optimization; convolutional neural network

Yang B B, Huang Z Y, Li Y J, et al. **Hybrid3D: learning 3D hybrid features with point clouds and multi-view images for point cloud registration**. *Sci China Inf Sci*, 2023, 66(7): 172101

Keywords: point cloud registration; cross-modal feature fusion; multi-view feature fusion; computer vision; deep learning

Chen Y Y, Fan Z Y, Chen S N, et al. **Improving pseudo-labeling with reliable inter-camera distance encouragement for unsupervised person re-identification**. *Sci China Inf Sci*, 2023, 66(5): 152103

Keywords: person re-identification; noise label; camera variation; clustering; deep learning

Liu M, Wei Y X, Wu X H, et al. **Survey on leveraging pre-trained generative adversarial networks for image editing and restoration**. *Sci China Inf Sci*, 2023, 66(5): 151101

Keywords: survey; generative adversarial networks; pre-trained models; image editing; image restoration

Du L, Wang H A, Zhang J, et al. **Adaptive structured sparse multiview canonical correlation analysis for multimodal brain imaging association identification**. *Sci China Inf Sci*, 2023, 66(4): 142106

Keywords: multimodal brain imaging correlation; sparse multiview canonical correlation analysis; task imbalance; adaptive loss balancing; graph-group penalty

Zhang D, Zhang L Y, Tang J H. **Augmented FCN: rethinking context modeling for semantic segmentation**. *Sci China Inf Sci*, 2023, 66(4): 142105

Keywords: semantic segmentation; context modeling; long-range dependencies; attention mechanism

Lyu Y L, Jing L P, Wang J Q, et al. **Siamese transformer with hierarchical concept embedding for fine-grained image recognition**. *Sci China Inf Sci*, 2023, 66(3): 132107

Keywords: fine-grained image recognition; transformer; hierarchical concept embedding; adaptive

sampling; Siamese network

Bai J Y, Guo J, Wang C C, et al. **Deep graph learning for spatially-varying indoor lighting prediction**. Sci China Inf Sci, 2023, 66(3): 132106

Keywords: lighting; graph learning; augmented reality; spherical Gaussians; rendering

Cheng G, Lai P J, Gao D C, et al. **Class attention network for image recognition**. Sci China Inf Sci, 2023, 66(3): 132105

Keywords: visual attention; class-specific attention encoding; class attention network; dictionary learning

Li Q W, Guo J, Wu Z Y, et al. **Reflectance edge guided networks for detail-preserving intrinsic image decomposition**. Sci China Inf Sci, 2023, 66(2): 122105

Keywords: intrinsic image decomposition; detail-preserving; reflectance edges

Hussain S, Xi X M, Ullah I, et al. **Difficulty-aware prior-guided hierarchical network for adaptive segmentation of breast tumors**. Sci China Inf Sci, 2023, 66(2): 122104

Keywords: breast tumor; ultrasound image segmentation; deep neural network; difficulty-awareness

Wu J, Cong R M, Fang L Y, et al. **Unpaired remote sensing image super-resolution with content-preserving weak supervision neural network**. Sci China Inf Sci, 2023, 66(1): 119105

Keywords: deep learning; remote sensing images; super-resolution; unpaired training; weak supervision

He X, Zhu M R, Wang N N, et al. **BiTGAN: bilateral generative adversarial networks for Chinese ink wash painting style transfer**. Sci China Inf Sci, 2023, 66(1): 119104

Keywords: Chinese ink wash painting; image style transfer; image-to-image translation; generative adversarial networks; GAN; bilateral-generator

Xu C Y, Cui Z, Wang C Q, et al. **Learning cross-modal interaction for RGB-T tracking**. Sci China Inf Sci, 2023, 66(1): 119103

Keywords: RGB-T tracking; cross-modal interaction; pixel-level correlation; relation-level correlation; visual object tracking

Chen S Y, Cheng T H, Fang J M, et al. **TinyDet: accurately detecting small objects within 1 GFLOPs**. Sci China Inf Sci, 2023, 66(1): 119102

Keywords: small object detection; lightweight network; generic object detection; Tiny AI; high resolution

Chen J, Chen Y S, Li W H, et al. **Image co-segmentation based on pyramid features cross-correlation network**. Sci China Inf Sci, 2023, 66(1): 119101

Keywords: image co-segmentation; pyramid features; deep learning; pair-wise manner; VGG16

Cao W, Lyu L, Yang Z X, et al. **An energy constraint position-based dynamics with corrected SPH kernel.** Sci China Inf Sci, 2023, 66(1): 112108

Keywords: position-based dynamics; deformable solids; continuum mechanics

Lin L Q, Huang P D, Fu C-W, et al. **On learning the right attention point for feature enhancement.** Sci China Inf Sci, 2023, 66(1): 112107

Keywords: point convolution; feature enhancement; attention point; deep neural network

Zhou Z, Meng M, Zhou Y, et al. **Model-guided 3D stitching for augmented virtual environment.** Sci China Inf Sci, 2023, 66(1): 112106

Keywords: 3D stitching; video model; multiple video visualization; augmented virtual environment

Song Y N, Gao L, Li X Y, et al. **A novel vision-based multi-task robotic grasp detection method for multi-object scenes.** Sci China Inf Sci, 2022, 65(12): 222104

Keywords: robotic grasp detection; multi-object scene; object detection; grasp matching strategy; deep learning

Wang J, Li Y H, Pan Y W, et al. **Contextual and selective attention networks for image captioning.** Sci China Inf Sci, 2022, 65(12): 222103

Keywords: image captioning; hybrid attention; contextual attention

Yan P, Tan Y H, Tai Y. **Repeatable adaptive keypoint detection via self-supervised learning.** Sci China Inf Sci, 2022, 65(11): 212103

Keywords: keypoint detection; convolutional neural network; image matching; self-supervised learning; repeatable

Nie X Y, Hu Y, Shen X K, et al. **Reconstructing and editing fluids using the adaptive multilayer external force guiding model.** Sci China Inf Sci, 2022, 65(11): 212102

Keywords: reconstructing fluids; editing fluids; monocular videos; adaptive multilayer external force guiding model; generation and extinction model

Wei X-S, Cui Q, Yang L, et al. **RPC: a large-scale and fine-grained retail product checkout dataset.** Sci China Inf Sci, 2022, 65(9): 197101

Keywords: Automatic Check-Out; Benchmark Datasets; Retail Product Recognition; Fine-Grained Recognition; Deep Learning

Zhong Y H, Chen X, Jiang J Y, et al. **Reverse erasure guided spatio-temporal autoencoder with compact feature representation for video anomaly detection.** Sci China Inf Sci, 2022, 65(9): 194101

Keywords: anomaly detection; dual-encoder single-decoder network; reverse erasure; compact feature representation; deep support vector data description

Ren D Y, Wu Z Y, Li J W, et al. **Point attention network for point cloud semantic segmentation.** Sci China Inf Sci, 2022, 65(9): 192104

Keywords: point cloud; semantic segmentation; self-attention mechanism; deep learning; long-range dependencies

Huang J, Li X L. **Ensemble of half-space trees for hyperspectral anomaly detection**. Sci China Inf Sci, 2022, 65(9): 192103

Keywords: hyperspectral image; anomaly detection; extended morphological attribute profile; mass estimation; half-space tree

Xu Q, Xi X M, Meng X J, et al. **Difficulty-aware bi-network with spatial attention constrained graph for axillary lymph node segmentation**. Sci China Inf Sci, 2022, 65(9): 192102

Keywords: ultrasound image; axillary lymph nodes segmentation; difficulty-aware segmentation; graph with spatial attention

Ma S W, Zhang L, Wang S Q, et al. **Evolution of AVS video coding standards: twenty years of innovation and development**. Sci China Inf Sci, 2022, 65(9): 192101

Keywords: video coding; AVS standards; video applications; intelligent coding

Fu Q, Fu H B, Deng Z G, et al. **Indoor layout programming via virtual navigation detectors**. Sci China Inf Sci, 2022, 65(8): 189101

Keywords: 3d modeling; indoor scene synthesis; layout programming; indoor navigation; deep reinforcement learning

Chen Y D, Hao C Y, Yang Z-X, et al. **Fast target-aware learning for few-shot video object segmentation**. Sci China Inf Sci, 2022, 65(8): 182104

Keywords: video object segmentation; few-shot; target-aware; meta knowledge; bilevel-optimization

Fang C W, Tian H B, Zhang D W, et al. **Densely nested top-down flows for salient object detection**. Sci China Inf Sci, 2022, 65(8): 182103

Keywords: salient object detection; top-down flow; densely nested framework; convolutional neural networks

Huang Y, Yang C C, Chen Z Y. **3DPF-FBN: video inpainting by jointly 3D-patch filling and neural network refinement**. Sci China Inf Sci, 2022, 65(7): 179103

Keywords: video inpainting; patch-based searching; optical flow; neural network; refinement

Ji Z, Chen K X, He Y Q, et al. **Heterogeneous memory enhanced graph reasoning network for cross-modal retrieval**. Sci China Inf Sci, 2022, 65(7): 172104

Keywords: cross-modal retrieval; graph reasoning; memory network; visual semantic embedding; image-text retrieval; video-text retrieval

Zhang K J, Zhang R, Wu Y L, et al. **Few-shot font style transfer with multiple style encoders**. Sci China Inf Sci, 2022, 65(6): 160109

Keywords: font generation; image-to-image translation; generative adversarial network; multi-task

learning; font fusion; style transfer

Wu T T, Duan F Q, Chang L, et al. **Human-object interaction detection via interactive visual-semantic graph learning**. Sci China Inf Sci, 2022, 65(6): 160108

Keywords: human-object interaction; context modeling; graph learning; interactive graph; visual-semantic graph

Zhou W J, Liu C, Lei J S, et al. **RLLNet: a lightweight remaking learning network for saliency redetection on RGB-D images**. Sci China Inf Sci, 2022, 65(6): 160107

Keywords: deep learning; rgb-d image; saliency detection; remaking learning; lightweight network

Dikubab W, Liang D K, Liao M H, et al. **Comprehensive benchmark datasets for Amharic scene text detection and recognition**. Sci China Inf Sci, 2022, 65(6): 160106

Keywords: Amharic script; scene text; text detection; text recognition; Amharic text

Wei X-S, Xu S-L, Chen H, et al. **Prototype-based classifier learning for long-tailed visual recognition**. Sci China Inf Sci, 2022, 65(6): 160105

Keywords: long-tailed distribution; categorical prototype; classifier generation; classifier calibration; class imbalance

Liang D K, Chen X W, Xu W, et al. **TransCrowd: weakly-supervised crowd counting with transformers**. Sci China Inf Sci, 2022, 65(6): 160104

Keywords: crowd counting; visual transformer; weakly supervised; crowd analysis; transformer

Wang Y, Peng J J, Wang H B, et al. **Progressive learning with multi-scale attention network for cross-domain vehicle re-identification**. Sci China Inf Sci, 2022, 65(6): 160103

Keywords: data adaptation module; weighted label smoothing loss; multi-scale attention network; vehicle re-identification

Ding J L, Liu T, Zhao Y, et al. **HAPNet: a head-aware pedestrian detection network associated with the affinity field**. Sci China Inf Sci, 2022, 65(6): 160102

Keywords: pedestrian detection; head detection; head-aware pedestrian network; affinity module; occlusion

Zhang D W, Wang B, Wang G R, et al. **Onfocus detection: identifying individual-camera eye contact from unconstrained images**. Sci China Inf Sci, 2022, 65(6): 160101

Keywords: onfocus detection; deep neural network; capsule routing; computer vision; deep learning

Mei S H, Geng Y H, Hou J H, et al. **Learning hyperspectral images from RGB images via a coarse-to-fine CNN**. Sci China Inf Sci, 2022, 65(5): 152102

Keywords: hyperspectral; reconstruction; convolutional neural network; deep learning

Tu Z Z, Pan W L, Duan Y S, et al. **RGBT tracking via reliable feature configuration**. Sci China Inf Sci, 2022, 65(4): 142101

Keywords: rgbt tracking; multi-modal; reliability guideline; feature configuration; correlation filter

Li W X, Lin N, Zhang M Z, et al. **VNet: a versatile network to train real-time semantic segmentation models on a single GPU**. *Sci China Inf Sci*, 2022, 65(3): 139105

Keywords: efficiency; machine learning; real-time systems; segmentation; light-weight

Ma J Z, Li S, Qin H, et al. **Self-adjustable hyper-graphs for video pose estimation based on spatial-temporal subspace construction**. *Sci China Inf Sci*, 2022, 65(3): 139101

Keywords: video pose estimation; self-adjustable hyper-graph; spatial-temporal subspace exploration; maximum matching subspace operator; action pattern

Yi Z K, Song W F, Li S, et al. **Automatic image matting and fusing for portrait synthesis**. *Sci China Inf Sci*, 2022, 65(2): 124101

Keywords: neural network; automatic image matting; image fusion; deep learning; gradient domain

Hu X F, Shi W Q, Zhou Y, et al. **Quantized and adaptive memristor based CNN (QA-mCNN) for image processing**. *Sci China Inf Sci*, 2022, 65(1): 119104

Keywords: adaptive template; incremental network quantization; optimization; cnn; memristor

Gao H B, Guo F, Zhu J P, et al. **Human motion segmentation based on structure constraint matrix factorization**. *Sci China Inf Sci*, 2022, 65(1): 119103

Keywords: computer vision; human motion segmentation; spectral clustering; structure constraint; matrix factorization

Zhao H, Zhu C Y, Xu X, et al. **Learning practically feasible policies for online 3D bin packing**. *Sci China Inf Sci*, 2022, 65(1): 112105

Keywords: bin packing problem; online 3d-bpp; reinforcement learning

Li Z T, Chen Z W, Zheng W-S, et al. **AR-CNN: an attention ranking network for learning urban perception**. *Sci China Inf Sci*, 2022, 65(1): 112104

Keywords: ranking network; urban perception; attribute learning; attention network; colour and texture

Wang H, Wu Y C, Li M H, et al. **Survey on rain removal from videos or a single image**. *Sci China Inf Sci*, 2022, 65(1): 111101

Keywords: rain removal; maximum a posterior estimation; deep learning; generalization performance; comprehensive repository

Lin L Q, Huang P D, Xue F Y, et al. **Hausdorff point convolution with geometric priors**. *Sci China Inf Sci*, 2021, 64(11): 210105

Keywords: point convolution; hausdorff distance; geometric prior; deep neural network

Wu K Y, Yang L C, Fu H B, et al. **iHairRecolorer: deep image-to-video hair color transfer**. *Sci China Inf Sci*, 2021, 64(11): 210104

Keywords: hair color transfer; video manipulation; luminance map; cycle consistency

Zheng Q, Liu Y J, Lin Z Z, et al. **Weakly supervised 2D human pose transfer**. Sci China Inf Sci, 2021, 64(11): 210103

Keywords: pose transfer; weak supervision; human skeleton

Yu P P, Guo J, Wu L H, et al. **Dual attention autoencoder for all-weather outdoor lighting estimation**. Sci China Inf Sci, 2021, 64(11): 210102

Keywords: outdoor illumination; adaptive feature pyramid; attention; autoencoder; augmented reality

Geng J H, Weng Y L, Wang L D, et al. **Single-view facial reflectance inference with a differentiable renderer**. Sci China Inf Sci, 2021, 64(11): 210101

Keywords: facial modeling; reflectance inference; differentiable renderer

Lyu F, Liu Y J, Huang J, et al. **LotusMenu: a 3D menu using wrist and elbow rotation inspired by Chinese traditional symbol**. Sci China Inf Sci, 2021, 64(10): 204101

Keywords: interaction; 3d menu; freehand gesture; selection technology; 3d rotation

Chen M T, Wang X G, Luo H, et al. **Learning to focus: cascaded feature matching network for few-shot image recognition**. Sci China Inf Sci, 2021, 64(9): 192105

Keywords: few-shot learning; image recognition; feature matching; self-attention

Zhu J Q, Liu L, Zhu X B, et al. **A spatial structural similarity triplet loss for auxiliary vehicle re-identification**. Sci China Inf Sci, 2021, 64(7): 179104

Keywords: vehicle re-identification; spatial structural similarity; triplet loss; deep learning; video surveillance system

Liu J, Bian Y L, Yuan Y R, et al. **Designing and deploying a mixed-reality aquarium for cognitive training of young children with autism spectrum disorder**. Sci China Inf Sci, 2021, 64(5): 154101

Keywords: autism spectrum disorder; mixed reality; cognitive training; young asd children; user study; quantitative research

Ma S J, Shen Q, Hou Q M, et al. **Neural compositing for real-time augmented reality rendering in low-frequency lighting environments**. Sci China Inf Sci, 2021, 64(2): 122101

Keywords: augmented reality; neural networks; differentiable renderer; reflection; shadow

Hu B, Xu J W, Wang X G. **Learning generalizable deep feature using triplet-batch-center loss for person re-identification**. Sci China Inf Sci, 2021, 64(2): 120111

Keywords: person re-identification; triplet loss; triplet-batch-center loss; metric learning; deep learning

Cheng G, Li R M, Lang C B, et al. **Task-wise attention guided part complementary learning for few-shot image classification**. Sci China Inf Sci, 2021, 64(2): 120104

Keywords: few-shot learning; meta-learning; task-wise attention; part complementary learning

Xie J, Pang Y W, Cholakkal H, et al. **PSC-Net: learning part spatial co-occurrence for occluded pedestrian detection**. Sci China Inf Sci, 2021, 64(2): 120103

Keywords: pedestrian detection; graph convolutional network; occlusion; object detection; feature extraction

Mao F L, Ma B P, Chang H, et al. **Learning efficient text-to-image synthesis via interstage cross-sample similarity distillation**. Sci China Inf Sci, 2021, 64(2): 120102

Keywords: generative adversarial network; text-to-image synthesis; knowledge distillation

Ji Z, Yan J T, Wang Q, et al. **Triple discriminator generative adversarial network for zero-shot image classification**. Sci China Inf Sci, 2021, 64(2): 120101

Keywords: zero-shot classification; generative adversarial nets; text reconstruction; sharma-mittal entropy

❖ 计算机理论

Yuan H C, Feng Q L, Wang J X. **Improved kernels for triangle packing in tournaments**. Sci China Inf Sci, 2023, 66(5): 152104

Keywords: tournaments; triangle packing; kernelization; fixed-parameter tractable; graph algorithms

Song B S, Li K L, Zeng X X, et al. **Monodirectional evolutionary symport tissue P systems with channel states and cell division**. Sci China Inf Sci, 2023, 66(3): 139104

Keywords: Bio-inspired computing; tissue P system; channel state; cell division; symport rule; antiport rule

Liu W Y, Bai Y J, Jiao L, et al. **Safety guarantee for time-delay systems with disturbances**. Sci China Inf Sci, 2023, 66(3): 132102

Keywords: time-delay systems; delay differential equations; control barrier functionals; controllers; safety

Liang J, Qu B Y, Li B L, et al. **Locating multiple roots of nonlinear equation systems via multi-strategy optimization algorithm with sequence quadratic program**. Sci China Inf Sci, 2022, 65(7): 179102

Keywords: multi-strategy optimization algorithm; sequence quadratic program; nonlinear equation system; multimodal optimization; multiple swarms optimization algorithm

Chu W J, Zhang W, Zhao H Y, et al. **Massive self-organized shape formation in grid environments**. Sci China Inf Sci, 2022, 65(6): 164101

Keywords: shape formation; self-organization; artificial light field; multi-agent path planning; collective intelligence

Jia L, Hua Q-S, Fan H Q, et al. **Efficient distributed algorithms for holistic aggregation functions on random regular graphs**. Sci China Inf Sci, 2022, 65(5): 152101

Keywords: distributed algorithms; holistic aggregation function; random regular graph; congest model; communication complexity; round complexity

Feng X Q, Ma J F, Liu S B, et al. **Auto-scalable and fault-tolerant load balancing mechanism for cloud computing based on the proof-of-work election**. *Sci China Inf Sci*, 2022, 65(1): 112102

Keywords: cloud computing; load balancing; auto-scalable; proof-of-work; fault-tolerant

Hua Q-S, Qian L X, Yu D X, et al. **A nearly optimal distributed algorithm for computing the weighted girth**. *Sci China Inf Sci*, 2021, 64(11): 212101

Keywords: distributed algorithms; weighted girth; congest model; communication complexity; round complex

Zhu X B, Li W J, Yang Y J, et al. **Incremental algorithms for the maximum internal spanning tree problem**. *Sci China Inf Sci*, 2021, 64(5): 152103

Keywords: maximum internal spanning tree; incremental problem; approximation algorithm; competitive ratio

Zhou J P, Li C M, Zhou Y P, et al. **Solving diversified top-k weight clique search problem**. *Sci China Inf Sci*, 2021, 64(5): 150105

Keywords: encoding; independent set; maximal clique; partial maxsat; top-k

Zhang Z, Feng Q L, Xu J H, et al. **An approximation algorithm for k-median with priorities**. *Sci China Inf Sci*, 2021, 64(5): 150104

Keywords: clustering; k-median; approximation algorithm; lp relaxation; primal-dual

Bian C, Qian C, Yu Y, et al. **On the robustness of median sampling in noisy evolutionary optimization**. *Sci China Inf Sci*, 2021, 64(5): 150103

Keywords: evolutionary algorithms; noisy optimization; median sampling; computational complexity; runtime analysis

Wu W, Jing X Y, Du W C, et al. **Learning dynamics of gradient descent optimization in deep neural networks**. *Sci China Inf Sci*, 2021, 64(5): 150102

Keywords: learning dynamics; deep neural networks; gradient descent; control model; transfer function

Glover F, Lv Z P. **Focal distance tabu search**. *Sci China Inf Sci*, 2021, 64(5): 150101

Keywords: tabu search; diversification; strategic oscillation; adaptive partitioning; metaheuristics

✧ 高性能计算

Ge K S, Zhang Y M, Fu Y Q, et al. **Accelerate distributed deep learning with cluster-aware sketch quantization**. *Sci China Inf Sci*, 2023, 66(6): 162102

Keywords: distributed training; deep learning; communication; sketch; quantization

Li H B, Zhao Y, Yao W B, et al. **Towards real-time ML-based DDoS detection via cost-efficient**

window-based feature extraction. Sci China Inf Sci, 2023, 66(5): 152105

Keywords: DDoS attack; machine learning; feature extraction; detection delay; cost-efficiency

Zhang S, Guo Y F, Guo Z H, et al. **SMAF: a secure and makespan-aware framework for executing serverless workflows**. Sci China Inf Sci, 2023, 66(3): 139105

Keywords: serverless computing; workflow scheduling; security; makespan; proactive Defense

Miao X P, Nie X N, Zhang H L, et al. **Hetu: a highly efficient automatic parallel distributed deep learning system**. Sci China Inf Sci, 2023, 66(1): 117101

Keywords: deep learning; distributed system; artificial intelligence; parallel computing; machine learning

Li X P, Pan D Y, Wang Y D, et al. **Scheduling multi-tenant cloud workflow tasks with resource reliability**. Sci China Inf Sci, 2022, 65(9): 192106

Keywords: multi-tenancy; resource reliability; cloud computing; scheduling

Zhou Y P, Fan M J, Ma F F, et al. **Solving multi-objective constrained minimum weighted bipartite assignment problem: a case study on energy-aware radio broadcast scheduling**. Sci China Inf Sci, 2022, 65(8): 182101

Keywords: constrained minimum weighted bipartite assignment; multi-objective energy-aware radio broadcast scheduling; evolutionary algorithms; dynamic resource allocation; aggregate local search

Fan W B, Fan J X, Zhang Y J, et al. **Communication and performance evaluation of 3-ary n-cubes onto network-on-chips**. Sci China Inf Sci, 2022, 65(7): 179101

Keywords: network-on-chip; 3-ary n-cube; topology mapping; wirelength; performance evaluation

Yao J G, Lu Q M, Wang X Y, et al. **SWVM: a light-weighted virtualization platform based on Sunway CPU architecture**. Sci China Inf Sci, 2022, 65(6): 169101

Keywords: sunway; virtualization; hypervisor; light-weighted; virtual machines

Jin H, Xiao J. **Towards trustworthy blockchain systems in the era of "Internet of value": development, challenges, and future trends**. Sci China Inf Sci, 2022, 65(5): 153101

Keywords: blockchain; distributed systems; internet of value; challenges; development

Chen B W, Fu H H, Luk W, et al. **A fully-customized dataflow engine for 3D earthquake simulation with a complex topography**. Sci China Inf Sci, 2022, 65(5): 152103

Keywords: reconfigurable computing; earthquake simulation; fpga; hardware-software co-design; architecture exploration

Qian L, Tang B, Ye B L, et al. **Stabilizing and boosting I/O performance for file systems with journaling on NVMe SSD**. Sci China Inf Sci, 2022, 65(3): 132102

Keywords: journaling file systems; nvme ssd; microwrite merging; hash table; ceph

Wei B, Xiao L M, Song Y, et al. **A self-tuning client-side metadata prefetching scheme for wide area network file systems**. *Sci China Inf Sci*, 2022, 65(3): 132101

Keywords: wide area network file systems; multiple workloads; metadata prefetching; correlation-directed prefetching; directory-directed prefetching; self-tuning prefetching

Dai H L, Peng X, Shi X H, et al. **Reveal training performance mystery between TensorFlow and PyTorch in the single GPU environment**. *Sci China Inf Sci*, 2022, 65(1): 112103

Keywords: deep learning; performance; comparison; tensorflow; pytorch

Yang D, Liu H K, Jin H, et al. **HMvisor: dynamic hybrid memory management for virtual machines**. *Sci China Inf Sci*, 2021, 64(9): 192104

Keywords: hypervisor; virtual machine; non-volatile memory; hybrid memory management

Gao J G, Zheng F, Qi F B, et al. **Sunway supercomputer architecture towards exascale computing: analysis and practice**. *Sci China Inf Sci*, 2021, 64(4): 141101

Keywords: supercomputer; exascale; sunway; scalability; power consumption; data movement; programming; availability

Fu X, Wang H M, Shi P C, et al. **A survey of Blockchain consensus algorithms: mechanism, design and applications**. *Sci China Inf Sci*, 2021, 64(2): 121101

Keywords: blockchain; consensus algorithm; byzantine fault-tolerant; process model; design principles

✧ 信息安全

Xie W L, Weng J, Tong Y, et al. **Lattice-based autonomous path proxy re-encryption in the standard model**. *Sci China Inf Sci*, 2023, 66(10): 202101

Keywords: autonomous path proxy re-encryption; proxy re-encryption; lattice-based cryptography; learning with errors; controlled delegation

Ghopur D, Ma J F, Ma X D, et al. **Puncturable ciphertext-policy attribute-based encryption scheme for efficient and flexible user revocation**. *Sci China Inf Sci*, 2023, 66(7): 172104

Keywords: ciphertext-policy attribute-based encryption; puncturable encryption; user revocation; outsource decryption; digital signature

Yuan B, Zhang F, Wan J, et al. **Resource investment for DDoS attack resistant SDN: a practical assessment**. *Sci China Inf Sci*, 2023, 66(7): 172103

Keywords: SDN security; DDoS attacks; resource management; queueing theory; QoS

Ji T T, Fang B X, Cui X, et al. **Framework for understanding intention-unbreakable malware**. *Sci China Inf Sci*, 2023, 66(4): 142104

Keywords: malware; unbreakable property; modeling mechanism; accurate identification; intention concealment

Zhang K, Lai X J, Wang L, et al. **A revisited security evaluation of Simeck family ciphers against**

impossible differential cryptanalysis. Sci China Inf Sci, 2023, 66(3): 139106

Keywords: cybersecurity; cryptanalysis; lightweight block cipher; impossible differential cryptanalysis; Simeck

Xiang A X, Gao H F, Tian Y L, et al. **DBKEM-AACS: a distributed key escrow model in blockchain with anonymous authentication and committee selection.** Sci China Inf Sci, 2023, 66(3): 139102

Keywords: key escrow; blockchain; smart contract; committee selection; anonymous authentication

Zhang P Y, Li C X, Zhou M C, et al. **Transaction transmission model for blockchain channels based on non-cooperative games.** Sci China Inf Sci, 2023, 66(1): 112105

Keywords: Blockchain channel; transaction transmission; channel balance; channel state; channel transmission probability; non-cooperative game

Chen X, Wang C, Yang Q, et al. **Locally differentially private high-dimensional data synthesis.** Sci China Inf Sci, 2023, 66(1): 112101

Keywords: preserving protocols local differential privacy; high-dimensional data synthesis; sampling; data privacy; privacy-

Zhao Y, Yang K, Chen S M, et al. **A benchmark for visual analysis of insider threat detection.** Sci China Inf Sci, 2022, 65(9): 199102

Keywords: visual analytics; visualization; evaluation; benchmark; intelligence analysis

Chen T, Cheng Q F, Li X H. **An anonymous key agreement protocol with robust authentication for smart grid infrastructure.** Sci China Inf Sci, 2022, 65(9): 199101

Keywords: smart grid infrastructure; impersonation attack; perfect forward security; ephemeral key compromise attack; key agreement

Hou L, Lin D D, Liu R Z. **Hierarchical group signature with verifier-local revocation revisited.** Sci China Inf Sci, 2022, 65(8): 189103

Keywords: group signature; hierarchical group signature; verifier-local revocation; generic construction; lattice-based cryptography

Xing J C, Wu C M, Zhou H F, et al. **Efficient middlebox scaling for virtualized intrusion prevention systems in software-defined networks.** Sci China Inf Sci, 2022, 65(8): 189102

Keywords: intrusion prevention system; middlebox scaling; software-defined network; security; resource utilization

He Y, Inglut E, Luo C J. **Malware incident response (IR) informed by cyber threat intelligence (CTI).** Sci China Inf Sci, 2022, 65(7): 179105

Keywords: malware analysis; cyber threat intelligence; crypto jacking; incident response; malware incident response

Wang H, Gu D W, Zhang Y Y, et al. **An empirical study of security issues in SSO server-side implementations.** Sci China Inf Sci, 2022, 65(7): 179104

Keywords: single sign-on; oauth; openid connect; federated identity management; access control

Chen H Y, Zou D Q, Jin H, et al. **SAND: semi-automated adaptive network defense via programmable rule generation and deployment**. Sci China Inf Sci, 2022, 65(7): 172102

Keywords: network defense; adaptive defense; automated defense; programmable defense; security services; software-defined networking; security management

Wei M, Sun S W, Wei Z H, et al. **A small first-order DPA resistant AES implementation with no fresh randomness**. Sci China Inf Sci, 2022, 65(6): 169102

Keywords: side channel analysis; dpa; threshold implementation; domain-oriented masking; aes

Tao Y, Ji Y F, Zhang R. **Generalizing Lyubashevsky-Wichs trapdoor sampler for NTRU lattices**. Sci China Inf Sci, 2022, 65(5): 159103

Keywords: trapdoor sampler; ntru lattice; hash-and-sign; lattice-based signature; post-quantum cryptography

Cui J, Sun Y, Xu Y, et al. **Forward and backward secure searchable encryption with multi-keyword search and result verification**. Sci China Inf Sci, 2022, 65(5): 159102

Keywords: forward security; backward security; multi-keyword search; verification; searchable encryption

Huang Y, Zhang F G, Liu Z J, et al. **Pseudorandom number generator based on supersingular elliptic curve isogenies**. Sci China Inf Sci, 2022, 65(5): 159101

Keywords: post-quantum cryptography; pseudorandom generator; supersingular elliptic curve isogenies; decisional supersingular product; indistinguishability

Pan J, Zhang J, Zhang F G, et al. **Lattice-based group encryptions with only one trapdoor**. Sci China Inf Sci, 2022, 65(5): 152304

Keywords: lattice cryptography; group encryptions; lattice trapdoors; accumulators; zero-knowledge

Guo X J, Li J, Liu Z L, et al. **Labrador: towards fair and auditable data sharing in cloud computing with long-term privacy**. Sci China Inf Sci, 2022, 65(5): 152106

Keywords: data sharing; homomorphic encryption; blockchain; smart contract; game theory

Ma J, Qi B, Lv K W. **Constant-round auction with insulated bidders**. Sci China Inf Sci, 2022, 65(4): 149102

Keywords: auction; commitment; integer comparison protocol; constant-round; blockchain

Xiang Z J, Zeng X Y, Zhang S S. **On the bit-based division property of S-boxes**. Sci China Inf Sci, 2022, 65(4): 149101

Keywords: division property; sbox; anf; divisional optimal; divisional suboptimal

Tong H P, Shen X, Li C, et al. **Improved nonlinear invariant attack**. Sci China Inf Sci, 2022, 65(3):

139103

Keywords: nonlinear invariant attack; 4-bit optimal s-boxes; q-equivalence; fides; distinguishing attack

Li W, Cao S, Gu D W, et al. **Ciphertext-only fault analysis of GIFT lightweight cryptosystem**. Sci China Inf Sci, 2022, 65(3): 139102

Keywords: lightweight cryptosystem; gift; ciphertext-only fault analysis; cryptanalysis; fault analysis

Liu J, Rijmen V, Hu Y P, et al. **WARX: efficient white-box block cipher based on ARX primitives and random MDS matrix**. Sci China Inf Sci, 2022, 65(3): 132302

Keywords: white-box cryptography; block cipher; design; addition/rotation/xor; efficiency improvement

Zhang X, Zheng Z X, Wang X Y. **A detailed analysis of primal attack and its variants**. Sci China Inf Sci, 2022, 65(3): 132301

Keywords: cryptanalysis; lattice-based cryptography; learning with errors problem; primal attack; unique-svp

Du J, Wang W, Li M Z, et al. **Related-tweakey impossible differential attack on QARMA-128**. Sci China Inf Sci, 2022, 65(2): 129102

Keywords: tweakable block cipher; qarma; impossible differential; related tweakey; milp

Zhang J W, Niu Y C, Wang A. **Correlation leakage analysis based on masking schemes**. Sci China Inf Sci, 2022, 65(2): 129101

Keywords: correlation leakage analysis; correlation leakage model; second-order analysis; side-channel attack; masking schemes

Hong H B, Shao J, Wang L C, et al. **A CCA secure public key encryption scheme based on finite groups of Lie type**. Sci China Inf Sci, 2022, 65(1): 119102

Keywords: finite groups of lie type; exponential mapping; public key encryption; non-abelian factoring assumption; non-abelian inserting assumption

Chen S W, Xiang Z J, Zeng X Y, et al. **Cube attacks on round-reduced MORUS and Gimli**. Sci China Inf Sci, 2022, 65(1): 119101

Keywords: cube attack; division property; morus; gimli; authenticated encryption

Guo Q W, Huang Q, Ma S, et al. **Functional signatures: new definition and constructions**. Sci China Inf Sci, 2021, 64(12): 222301

Keywords: cloud computation security; digital signature; functional signature; non-interactive zero-knowledge proof; e-commerce

Xue Q, Zhu Y W, Wang J, et al. **Locally differentially private distributed algorithms for set intersection and union**. Sci China Inf Sci, 2021, 64(11): 219101

Keywords: local differential privacy; set intersection; union; randomized response; multiset

Chen Z R, Tian Y L, Peng C G. **An incentive-compatible rational secret sharing scheme using blockchain and smart contract**. Sci China Inf Sci, 2021, 64(10): 202301

Keywords: rational secret sharing; game theory; sequential equilibrium; incentive-compatible; smart contract

Chen T, Li X H, Cheng Q F. **An enhanced key exchange protocol exhibiting key compromise impersonation attacks resistance in mobile commerce environment**. Sci China Inf Sci, 2021, 64(9): 199106

Keywords: three-party authentication; key exchange; key compromise impersonation attack; mobile-commerce environments; security analysis

Ding L, Gu D W, Wang L, et al. **Improved Guess and Determine attack on the MASHA stream cipher**. Sci China Inf Sci, 2021, 64(9): 199105

Keywords: cryptanalysis; stream cipher; guess and determine attack; masha; k2

Tan Y S, Chen B Z, Zhu L H, et al. **On-demand cut off the covert channel to mitigate meltdown**. Sci China Inf Sci, 2021, 64(9): 199104

Keywords: security vulnerability; meltdown attack; system performance; cache attack; microarchitecture attack; side channel

Sun S Z, Zhang R, Ma H. **Hashing multiple messages with SM3 on GPU platforms**. Sci China Inf Sci, 2021, 64(9): 199103

Keywords: sm3; hash algorithm; parallel computation; gpu; high performance implementation

Huang Y Y, Lv S Y, Liu Z L, et al. **Cetus: an efficient symmetric searchable encryption against file-injection attack with SGX**. Sci China Inf Sci, 2021, 64(8): 182314

Keywords: searchable encryption; sgx technique; file injection attack; forward/toward privacy; cloud databases

Shan R-T, Chen X B, Yuan K-G. **Multi-party blind quantum computation protocol with mutual authentication in network**. Sci China Inf Sci, 2021, 64(6): 162302

Keywords: blind quantum computation; mutual identity authentication; load balancer; semi-trust ca; quantum network

Guan Z T, Yang W T, Zhu L H, et al. **Achieving adaptively secure data access control with privacy protection for lightweight IoT devices**. Sci China Inf Sci, 2021, 64(6): 162301

Keywords: iot; cp-abe; constant-size ciphertexts; adaptively secure; privacy protection

Liu Y, Liang H C, Li M Z, et al. **STP models of optimal differential and linear trail for S-box based ciphers**. Sci China Inf Sci, 2021, 64(5): 159103

Keywords: stp; differential trail; linear trail; gift-128; des; desl; iceberg; aria; sm4

Wei M, Sun S W, Wei Z H, et al. **Unbalanced sharing: a threshold implementation of SM4**. Sci

China Inf Sci, 2021, 64(5): 159102

Keywords: side channel analysis; masking; threshold implementation; sm4; dpa

Feng J Y, Chen H, Cao W Q, et al. **Do multiple infections lead to better security? A new study on CHES 2014 infective countermeasure.** Sci China Inf Sci, 2021, 64(5): 159101

Keywords: fault attack; infective countermeasure; multiple infections; double-fault attack; fa-sca combined attack; random fault

Ren Y L, Zhang X P, Gu D W, et al. **Efficient outsourced extraction of histogram features over encrypted images in cloud.** Sci China Inf Sci, 2021, 64(3): 139105

Keywords: cloud computing; outsourced computation; histogram feature; image steganalysis; symmetric encryption

Zheng Z X, Wang X Y, Xu G W, et al. **Error estimation of practical convolution discrete Gaussian sampling with rejection sampling.** Sci China Inf Sci, 2021, 64(3): 139104

Keywords: discrete gaussian sampling; convolution theorem; lattice; error estimation; gaussian measure

Qin L Y, Dong X Y, Jia K T, et al. **Key-dependent cube attack on reduced Frit permutation in Duplex-AE modes.** Sci China Inf Sci, 2021, 64(3): 139103

Keywords: frit; duplex authenticated encryption mode; key-dependent cube attack; key-recovery; permutation-based cryptology

Zhang P, Yuan Q, Hu H G, et al. **Multi-user security of the tweakable Even-Mansour cipher.** Sci China Inf Sci, 2021, 64(3): 139102

Keywords: symmetric cryptography; tweakable blockcipher; tweakable even-mansour cipher; multi-user security; tightness; birthday bound; beyond birthday bound

Cui T T, Chen S Y, Fu K, et al. **New automatic tool for finding impossible differentials and zero-correlation linear approximations.** Sci China Inf Sci, 2021, 64(2): 129103

Keywords: impossible differential cryptanalysis; zero-correlation linear cryptanalysis; milp; automatic tool; block cipher

Yang J Z, Cheng G H, Shen M. **Secure fusion of encrypted remote sensing images based on Brovey.** Sci China Inf Sci, 2021, 64(2): 129102

Keywords: remote sensing; image fusion; brovey; privacy preserving; cloud computing

Shen Y B, Yan H L, Wang L, et al. **Secure key-alternating Feistel ciphers without key schedule.** Sci China Inf Sci, 2021, 64(1): 119103

Keywords: blockciphers; key schedule; key-alternating feistel; provable security; h-coefficient technique

He L, Ma J F, Shen L M, et al. **Certificateless designated verifier proxy signature scheme for unmanned aerial vehicle networks.** Sci China Inf Sci, 2021, 64(1): 112101

Keywords: certificateless; designated verifier; proxy; digital signature; unmanned aerial vehicle

❖ 社交媒体

Huang S Y, Qin Y Z, Zhang X Y, et al. **Survey on performance optimization for database systems**. Sci China Inf Sci, 2023, 66(2): 121102

Keywords: database management system; performance optimization; performance prediction; anomaly diagnosis; database tuning

Shao P Y, Wu L, Chen L, et al. **FairCF: fairness-aware collaborative filtering**. Sci China Inf Sci, 2022, 65(12): 222102

Keywords: recommendation systems; fairness; adversarial learning

Gao X Y, Wang J J, Li S S, et al. **Cognition-driven multimodal personality classification**. Sci China Inf Sci, 2022, 65(10): 202104

Keywords: cognitive psychology; personality classification; multimodal analysis; multi-agent reinforcement learning; agent-sharing mechanism

Jiang C L, Zhang C H, Ji Y, et al. **An affective chatbot with controlled specific emotion expression**. Sci China Inf Sci, 2022, 65(10): 202102

Keywords: natural language generation; emotional chatbot; sequence-to-sequence; emotion distribution; emotion analysis

Liu H F, Wen J X, Jing L P, et al. **Leveraging implicit social structures for recommendation via a Bayesian generative model**. Sci China Inf Sci, 2022, 65(4): 149104

Keywords: recommendation system; collaborative filtering; social recommendation; social networks; generative model

Xiao S T, Shao Y X, Li Y W, et al. **LECF: recommendation via learnable edge collaborative filtering**. Sci China Inf Sci, 2022, 65(1): 112101

Keywords: collaborative filtering; recommender system; implicit feedback; edge-edge similarity; line graph

Zhou X B, Wang Z Q, Zhou M, et al. **Sentiment classification via user and product interactive modeling**. Sci China Inf Sci, 2021, 64(12): 222104

Keywords: product review analysis; sentiment classification; interactive graph; graph convolutional network

Gong J J, Yan H, Zheng Y N, et al. **Text information aggregation with centrality attention**. Sci China Inf Sci, 2021, 64(12): 222103

Keywords: information aggregation; eigen centrality; text classification; natural language processing; deep learning

Zhu D H, Dai X-Y, Chen J J, et al. **Sampling informative context nodes for network embedding**. Sci China Inf Sci, 2021, 64(11): 212104

Keywords: network embedding; representation learning; random walk; entropy; weighted entropy

Ding X, Shi J H, Duan J W, et al. **Quantifying the effects of long-term news on stock markets on the basis of the multikernel Hawkes process**. Sci China Inf Sci, 2021, 64(9): 192102

Keywords: hawkes process; multikernel function; stock market prediction; long-term news effects

Zheng Q H, Liu J, Zeng H W, et al. **Knowledge forest: a novel model to organize knowledge fragments**. Sci China Inf Sci, 2021, 64(7): 179103

Keywords: knowledge organization; knowledge forest; facet tree; knowledge fragment; learning dependency; information overload; learning disorientation

Song Z Y, Tang J, Liu T X, et al. **XiaoMu: an AI-driven assistant for MOOCs**. Sci China Inf Sci, 2021, 64(6): 164101

Keywords: moocs; concept extraction; question answering; course recommendation; video navigation

Zhang J, Tang J. **Name disambiguation in Aminer**. Sci China Inf Sci, 2021, 64(4): 144101

Keywords: name disambiguation; academic network; graph embedding; outlier detection; clustering algorithm

❖ 软件

Bai Y D, Chen S, Xing Z C, et al. **ArgusDroid: detecting Android malware variants by mining permission-API knowledge graph**. Sci China Inf Sci, 2023, 66(9): 192101

Keywords: malicious behavior; Android document; knowledge graph; malware family variant; machine learning

Xiong Y F, Tin Y Q, Liu Y P, et al. **Toward actionable testing of deep learning models**. Sci China Inf Sci, 2023, 66(7): 176101

Keywords: Deep Learning; Testing; Bug Fixing; Machine Translation; Image Classification; Numeric Bugs

Wang Y, Chen J W, Huang Q, et al. **Deep learning-based open API recommendation for Mashup development**. Sci China Inf Sci, 2023, 66(7): 172102

Keywords: Mashup development; open API recommendation; deep learning; neural network; service discovery

Jiang M Y, Zheng L B, Ding Z H, et al. **A software-defined MAPE-K architecture for unmanned systems**. Sci China Inf Sci, 2023, 66(5): 159101

Keywords: software-defined architecture; unmanned systems; MAPE-K; metamodel; resource management

Liu Y, Ma Y, Xiao X S, et al. **LeguDroid: flexible Android app decomposition and instant installation**. Sci China Inf Sci, 2023, 66(4): 142103

Keywords: performance; software bloat; instant installation; mobile applications; program analysis

Chen B H, Liu Y, Peng X, et al. **BATON: symphony of random testing and concolic testing through machine learning and taint analysis**. *Sci China Inf Sci*, 2023, 66(3): 132101

Keywords: system testing; random testing; concolic testing

Zhou Y, Chen C, Wang Y C, et al. **Context-aware API recommendation using tensor factorization**. *Sci China Inf Sci*, 2023, 66(2): 122101

Keywords: API recommendation; tensor factorization; context awareness; word embedding; software development intelligent

Li H, Ji S P, Zhong H, et al. **LPW: an efficient data-aware cache replacement strategy for Apache Spark**. *Sci China Inf Sci*, 2023, 66(1): 112104

Keywords: Spark; memory; cache replacement; least partition weight; data-aware

Zhang J P, Chen H C, Yu D J, et al. **Cluster-preserving sampling algorithm for large-scale graphs**. *Sci China Inf Sci*, 2023, 66(1): 112103

Keywords: graph sampling; clustering structure; top-leader nodes; expansion strategies; large-scale graphs

He X, Hu Z J, Meng N. **A theoretic framework of bidirectional transformation between systems and models**. *Sci China Inf Sci*, 2022, 65(10): 202103

Keywords: bidirectional transformation; system-model synchronization; change propagation; model-driven engineering; system edit

Ji T, Chen L Q, Mao X G, et al. **Automated regression unit test generation for program merges**. *Sci China Inf Sci*, 2022, 65(9): 199103

Keywords: regression testing; unit test generation; test oracles; program merges; merge conflicts

Cui D, Fan L L, Chen S, et al. **Towards characterizing bug fixes through dependency-level changes in Apache Java open source projects**. *Sci China Inf Sci*, 2022, 65(7): 172101

Keywords: empirical software engineering; software maintenance; software evolution; software architecture; software design

Bao L F, Li T, Xia X, et al. **How does working from home affect developer productivity? — A case study of Baidu during the COVID-19 pandemic**. *Sci China Inf Sci*, 2022, 65(4): 142102

Keywords: working from home; developer productivity

Fu X, Wang H M, Shi P C, et al. **Teegraph: trusted execution environment and directed acyclic graph-based consensus algorithm for IoT blockchains**. *Sci China Inf Sci*, 2022, 65(3): 139104

Keywords: blockchain; dag; byzantine fault-tolerant; consensus algorithm; tee

Li Z X, Yu Y, Wang T, et al. **HAF: a hybrid annotation framework based on expert knowledge and learning technique**. *Sci China Inf Sci*, 2022, 65(1): 119105

Keywords: hybrid annotation framework; data annotation; expert knowledge; learning technique;

labeled dataset

Cao D G, Xue D L, Ma Z Y, et al. **XiUOS: an open-source ubiquitous operating system for industrial Internet of Things**. *Sci China Inf Sci*, 2022, 65(1): 117101

Keywords: ubiquitous operating system; industrial internet of things; intelligent manufacturing; cps; hcps

Wang P, Xu B W. **Matching weak informative ontologies**. *Sci China Inf Sci*, 2021, 64(12): 229101

Keywords: ontology matching; weak informative ontology; similarity propagation; semantic subgraph; ontology

Xing J, Tian J D, Jiang Z X, et al. **Jupiter: a modern federated learning platform for regional medical care**. *Sci China Inf Sci*, 2021, 64(10): 202101

Keywords: federated learning; programming abstraction; sgx; high-performance

Zhang J X, Jiang H, Lu S, et al. **DeepDir: a deep learning approach for API directive detection**. *Sci China Inf Sci*, 2021, 64(9): 199102

Keywords: api specification; api directive; deep learning; text classification; imbalanced learning

An J, Wang L T, Zhan B H, et al. **Learning real-time automata**. *Sci China Inf Sci*, 2021, 64(9): 192103

Keywords: automaton learning; active learning; real-time automata

Hua Z C, Yu Y, Gu J Y, et al. **TZ-Container: protecting container from untrusted OS with ARM TrustZone**. *Sci China Inf Sci*, 2021, 64(9): 192101

Keywords: system software; system security; linux container; arm; arm trustzone

Jiang J, Zheng J T, Yang Y, et al. **Predicting accepted pull requests in GitHub**. *Sci China Inf Sci*, 2021, 64(7): 179105

Keywords: accepted pull request; prediction; code review; github; pull-based software development

Li Z, Yu Z Z, Li H B, et al. **Revisiting the efficacy of weak consistencies: a study of forward checking**. *Sci China Inf Sci*, 2021, 64(7): 179102

Keywords: constraint satisfaction problem; arc consistency; forward checking; stronger consistency; weaker consistency

Lv T T, Ren Z L, Li X C, et al. **Toward accurate detection on change barriers**. *Sci China Inf Sci*, 2021, 64(3): 132102

Keywords: code smells; change barrier; logical regression; machine learning; software development

Liu W J, Chen B H, Peng X, et al. **Identifying change patterns of API misuses from code changes**. *Sci China Inf Sci*, 2021, 64(3): 132101

Keywords: api misuses; api mining; ast differencing; change patterns; bug fixing

Fan Q, Yu Y, Wang T, et al. **Why API documentation is insufficient for developers: an empirical**

study. Sci China Inf Sci, 2021, 64(1): 119102

Keywords: api documentation; android; online survey; stack overflow; empirical study