

Contents

Vol. 63 No. 6 June 2020

Special Focus on Artificial Intelligence for Optical Communications

Special focus on artificial intelligence for optical communications	160300(2)
Yuefeng JI, Chao LU, Darko ZIBAR & Huanlai XING	
Artificial intelligence-driven autonomous optical networks: 3S architecture and key technologies	160301(24)
Yuefeng JI, Rentao GU, Zeyuan YANG, Jin LI, Hui LI & Min ZHANG	
An overview of ML-based applications for next generation optical networks.....	160302(16)
RuoXuan GAO, Lei LIU, Xiaomin LIU, Huazhi LUN, Lilin YI, Weisheng HU & Qunbi ZHUGE	
AI based on frequency slicing deep neural network for underwater visible light communication	160303(8)
Nan CHI, Fangchen HU, Guoqiang LI, Chaofan WANG & Wenqing NIU	
Intent defined optical network with artificial intelligence-based automated operation and maintenance	160304(12)
Hui YANG, Kaixuan ZHAN, Qiuyan YAO, Xudong ZHAO, Jie ZHANG & Young LEE	
Overfitting effect of artificial neural network based nonlinear equalizer: from mathematical origin to transmission evolution.....	160305(13)
Zheng YANG, Fan GAO, Songnian FU, Ming TANG & Deming LIU	

Special Focus on Photonics in AI

Towards an intelligent photonic system.....	160401(17)
Weiwen ZOU, Bowen MA, Shaofu XU, Xiuting ZOU & Xingjun WANG	
A brief review of integrated and passive photonic reservoir computing systems and an approach for achieving extra non-linearity in passive devices.....	160402(8)
Dachuan WU, Yasha YI & Yuxiao ZHANG	
Towards silicon photonic neural networks for artificial intelligence	160403(14)
Bowen BAI, Haowen SHU, Xingjun WANG & Weiwen ZOU	
Automatic mode-locking fiber lasers: progress and perspectives.....	160404(24)
Guoqing PU, Li ZHANG, Weisheng HU & Lilin YI	
Real-time optical spike-timing dependent plasticity in a single VCSEL with dual-polarized pulsed optical injection	160405(12)
Shuiying XIANG, Yanan HAN, Xingxing GUO, Aijun WEN, Genquan HAN & Yue HAO	
Deep belief network-hidden Markov model based nonlinear equalizer for VCSEL based optical interconnect	160406(9)
Fukui TIAN & Chuanchuan YANG	
Enhanced memory capacity of a neuromorphic reservoir computing system based on a VCSEL with double optical feedbacks.....	160407(12)
Xingxing GUO, Shuiying XIANG, Yahui ZHANG, Aijun WEN & Yue HAO	
Demonstration of a distributed feedback laser diode working as a graded-potential-signaling photonic neuron and its application to neuromorphic information processing.....	160408(8)
Bowen MA & Weiwen ZOU	
A design method for high fabrication tolerance integrated optical mode multiplexer	160409(11)
Bitao SHEN, Haowen SHU, Linjie ZHOU & Xingjun WANG	

RESEARCH PAPER

Learning a graph-based classifier for fault localization	162101(22)
Hao ZHONG & Hong MEI	

MOOP

Detail-preserving smoke simulation using an efficient high-order numerical scheme	164101(3)
Jian ZHU, Zhuo YANG, Hanqiu SUN, Enhua WU, Ruichu CAI & Zhifeng HAO	
Visualization of COVID-19 spread based on spread and extinction indexes	164102(3)
Song-Hai ZHANG, Yun CAI & Jian LI	

LETTER

Reinforcement learning with actor-critic for knowledge graph reasoning	169101(3)
Linli ZHANG, Dewei LI, Yugeng XI & Shuai JIA	

An accelerator for the logistic regression algorithm based on sampling on-demand	169102(3)
Jiye LIANG, Yunsheng SONG, Deyu LI, Zhiqiang WANG & Chuangyin DANG	
Fine-grained relation extraction with focal multi-task learning.....	169103(3)
Xinsong ZHANG, Tianyi LIU, Weijia JIA & Pengshuai LI	
On pinning reachability of probabilistic Boolean control networks	169201(3)
Yang LIU, Jinde CAO, Liqing WANG & Zheng-Guang WU	
Data set approach for solving logical equations.....	169202(3)
Sen WANG, Jun-E FENG, Yongyuan YU & Xinhong WANG	
Dynamics and control of evolutionary congestion games	169203(3)
Xiaoye GAO, Jinhuai WANG & Kuize ZHANG	
Multi-variant network address hopping to defend stealthy crossfire attack	169301(3)
Boyang ZHOU, Gaoning PAN, Chunming WU, Kai ZHU & Wei RUAN	
Swarm intelligence approaches to power allocation for downlink base station cooperative system in dense cellular networks.....	169302(3)
Hailin XIAO & Zhongshan ZHANG	
Joint frequency-phase estimation for pilot-limited communication systems: a novel method based on length-variable auto-correlation operator	169303(3)
Hengzhou XU, Wenjing WEI, Bo ZHANG, Mengmeng XU & Hai ZHU	
Transmission success probability analysis of vehicle users with mobile relays under mobility models	169304(3)
Di WU & Sheng HUANG	
A photomemory by selective-assembling hybrid porphyrin-silicon nanowire field-effect transistor.....	169401(3)
Gong CHEN, Bocheng YU, Xiaokang LI, Xiaoqiao DONG, Xiaoyan XU, Zhihong LI, Ru HUANG & Ming LI	
Quantum key distribution based on single-particle and EPR entanglement.....	169501(3)
Leilei LI, Jian LI, Yan CHANG, Yuguang YANG & Xiubo CHEN	

Information for authors

SCIENCE CHINA Information Sciences (Sci China Inf Sci), cosponsored by the Chinese Academy of Sciences and the National Natural Science Foundation of China, and published by Science China Press, is committed to publishing high-quality, original results of both basic and applied research in all areas of information sciences, including computer science and technology; control science and engineering; information and communication engineering; microelectronics and solid state electronics, etc. *Sci China Inf Sci* is indexed in Science Citation Index Expanded (SCIE), Engineering Index (EI), Journal Citation Reports/Science Edition (JCR), Academic OneFile, Astrophysics Data System (ADS), CSA, Cabells, Current Contents/Engineering, Computing and Technology, DBLP, Digital Mathematics Registry, Earthquake Engineering Abstracts, Engineered Materials Abstracts, Gale, Google, INSPEC, Mathematical Reviews, OCLC, ProQuest, SCOPUS, Summon by Serial Solutions, VINITI. *Sci China Inf Sci* is published monthly in both print and electronic forms.

Authors are recommended to use *Science China's* online submission services. To submit a manuscript, please go to www.scichina.com, create an account to log in <http://mc03.manuscriptcentral.com/scis>, and follow the instructions there to upload text and image/table files.

All submissions will be reviewed by referees selected by the editorial board. The decision of acceptance or rejection of a manuscript is made by the editorial board based on the referees' reports. The entire review process may take 90 to 120 days, and the editorial office will inform the author of the decision as soon as the process is completed. If the editorial board fails to make a decision within 90 days, please contact the editorial office.

Authors should guarantee that their submitted manuscript has not been published before and has not been submitted elsewhere for print or electronic publication consideration. Submission of a manuscript is taken to imply that all the named authors are aware that they are listed as coauthors, and they have agreed on the submitted version of the paper. No change in the order of listed authors can be made without an agreement signed by all the authors.

Ethical responsibilities of authors: Authors should refrain from misrepresenting research results which could damage the trust in the journal and ultimately the entire scientific endeavour, and follow the COPE guidelines on how to deal with potential acts of misconduct.

Disclosure of potential conflict of interests: Authors must disclose all relationships or interests that could influence or bias the work. The corresponding author will include a summary statement in the text of the manuscript in a separate section before the reference list.

Once a manuscript is accepted, the authors should send a copyright transfer form signed by all authors to Science China Press. Authors of one published paper will be presented one sample copy. If more sample copies or offprints are required, please contact the managing editor and pay the extra fee. The full text opens free to domestic readers at www.scichina.com, and is available to overseas readers at link.springer.com.