**1. A Dynamic Planning Framework for QoS-Based Mobile Service Composition Under Cloud-Edge Hybrid Environments**

**Accession number:** 20200107962854

**Authors:** Gao, Honghao (1, 2, 5); Huang, Wanqiu (1); Zou, Qiming (2, 3); Yang, Xiaoxian (4)

**Author affiliation:** (1) School of Computer Engineering and Science, Shanghai University, Shanghai, China; (2) Computing Center, Shanghai University, Shanghai, China; (3) Shanghai Shang Da Hai Run Information System Co., Ltd., Shanghai, China; (4) School of Computer and Information Engineering, Shanghai Polytechnic University, Shanghai, China; (5) Shanghai Key Laboratory of Computer Software Evaluating and Testing, Shanghai, China

**Corresponding author:** Yang, Xiaoxian(xxyang@sspu.edu.cn)

**Source title:** Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, LNICST

**Abbreviated source title:** Lect. Notes Inst. Comput. Sci. Soc. Informatics Telecommun. Eng.

**Volume:** 292

**Part number:** 1 of 1

**Issue title:** Collaborative Computing: Networking, Applications and Worksharing - 15th EAI International Conference, CollaborateCom 2019, Proceedings

**Issue date:** 2019

**Publication year:** 2019

**Pages:** 58-70

**Language:** English

**ISSN:** 18678211

**ISBN-13:** 9783030301453

**Document type:** Conference article (CA)

**Conference name:** 15th EAI International Conference on Collaborative Computing: Networking, Applications and Worksharing, CollaborateCom 2019

**Conference date:** August 19, 2019 - August 22, 2019

**Conference location:** London, United kingdom

**Conference code:** 230319

**Publisher:** Springer

**Abstract:** In cloud-edge hybrid environments, when QoS constraints of the SOA-based mobile service composition change, a dynamic reconfiguration needs to be performed. Different from the traditional cloud service, the cloud-edge hybrid environment has the characteristics of limited resource storage, limited energy at the edge and uncertain users who move frequently. Dynamic reconfiguration in this mode is challenging. QoS is an important indicator of service evaluation. Most studies focus on only the static QoS attributes of the service. However, the QoS of a service is not statically constant; it changes dynamically over time. Therefore, to avoid the immediate failure of the service and ensure the stability of the mobile service composition after dynamic reconfiguration, an LSTM neural network is applied to predict the future QoS value for candidate service. This value is used as a service evaluation indicator during dynamic reconfiguration. Then, attributes such as energy consumption, traffic and moving track are considered. A cost-reward mechanism is constructed to calculate the cost and reward of the service when it is invoked. The reasonable restriction conditions are added for controlling dynamic reconfiguration. Finally, the dynamic reconfiguration problem-solving process and framework for mobile service composition based on QoS in a cloud-edge hybrid environment is introduced, guiding the mobile service composition dynamic reconfiguration task in cloud-edge hybrid environments. © 2019, ICST Institute for Computer Sciences, Social Informatics and Telecommunications Engineering.

**Number of references:** 20

**Main heading:** Dynamic models

**Controlled terms:** Energy utilization  -  Long short-term memory  -  Mobile telecommunication systems  -  Problem solving  -  Quality of service

**Uncontrolled terms:** Dynamic planning  -  Dynamic re-configuration  -  Limited energies  -  Mobile service composition  -  QoS constraints  -  Restriction condition  -  Service evaluation  -  Service failure

**Classification code:** 525.3 Energy Utilization  -  921 Mathematics

**DOI:** 10.1007/978-3-030-30146-0\_5

**Funding Details:** Number: 2017YFD0400101, Acronym: -, Sponsor: -; Number: 16ZR1411200, Acronym: -, Sponsor: Natural Science Foundation of Shanghai;

**Funding text:** Acknowledgment. This work is supported by the National Key Research and Development Plan of China under Grant No. 2017YFD0400101, the Natural Science Foundation of Shanghai under Grant No. 16ZR1411200, and CERNET Innovation Project under Grant No. NGII20170513.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**2. Study of the microwave photonic sensing by utilizing the incoherent light source with the serial fiber Bragg gratings**

**Accession number:** 20200508093064

**Authors:** Gui, Lin (1); Zhu, Yu-Xuan (1); Song, Su-Zhen (2); Guo, Yun-Ci (1)

**Author affiliation:** (1) College of Computer and Information Engineering, Shanghai Polytechnic University, Shanghai; 201209, China; (2) School of Environmental and Materials Engineering., Shanghai Polytechnic University, Shanghai; 201209, China

**Source title:** Proceedings of SPIE - The International Society for Optical Engineering

**Abbreviated source title:** Proc SPIE Int Soc Opt Eng

**Volume:** 11209

**Part number:** 1 of 1

**Issue title:** Eleventh International Conference on Information Optics and Photonics, CIOP 2019

**Issue date:** 2019

**Publication year:** 2019

**Article number:** 112093P

**Language:** English

**ISSN:** 0277786X

**E-ISSN:** 1996756X

**CODEN:** PSISDG

**ISBN-13:** 9781510631731

**Document type:** Conference article (CA)

**Conference name:** 11th International Conference on Information Optics and Photonics, CIOP 2019

**Conference date:** August 6, 2019 - August 9, 2019

**Conference location:** Xi’an, China

**Conference code:** 156655

**Publisher:** SPIE

**Abstract:** Microwave photonic filter is one of the key technologies of microwave photonics. Its main purpose is to replace the traditional method to process radio frequency signal, modulate optical carrier by radio frequency signal, and process it directly in the optical domain. The advantage of FIR microwave photonic filter is that it has no system poles and is more stable. It guarantees linear phase, which is very important in signal processing. In this paper, the incoherent microwave photon sensor cascaded by FBG is verified experimentally. In the experiment, three FBG wavelengths are 1530 nm, 1550.12nm and 1539.5nm respectively to form a high-order FIR microwave photon filter, two 3dB couplers and three km fibers to form an unbalanced M-Z interferometer. The incoherent light generated by EDFA is modulated by a filter electro-optic modulator through an optical fiber Bragg grating, demodulated by an M-Z interferometer, and eventually received by a photodetector. In the experiment, 60 MHz near notch is chosen as the modulation frequency, the amplitude of modulation signal is 4 Vpp, the temperature range is 30-40°C with the temperature interval of 1°C. The sensitivities of 0.2219dBm/°Care obtained by processing the average values of 3 points, 5 points, 7 points, 10 points and 15 points. © 2019 SPIE.

**Number of references:** 6

**Main heading:** Fiber Bragg gratings

**Controlled terms:** Electromagnetic field measurement  -  Erbium doped fiber amplifiers  -  Fibers  -  FIR filters  -  Frequency modulation  -  Light  -  Light sources  -  Mach-Zehnder interferometers  -  Microwave filters  -  Microwave sensors   -  Microwaves  -  Modulators  -  Optical signal processing  -  Photonics  -  Photons  -  Radio waves

**Uncontrolled terms:** Electro-optic modulators  -  M-Z interferometer  -  Microwave photonic filters  -  Microwave Photonics  -  Modulation frequencies  -  Modulation signals  -  Radiofrequency signals  -  Temperature intervals

**Classification code:** 703.2 Electric Filters  -  711 Electromagnetic Waves  -  713.3 Modulators, Demodulators, Limiters, Discriminators, Mixers  -  732.2 Control Instrumentation  -  741 Light, Optics and Optical Devices  -  931.3 Atomic and Molecular Physics  -  942.4 Magnetic Variables Measurements

**Numerical data indexing:** Decibel 3.00e+00dB, Frequency 6.00e+07Hz, Size 1.53e-06m, Size 1.54e-06m, Size 1.55e-06m, Temperature 2.74e+02K, Temperature 3.03e+02K to 3.13e+02K

**DOI:** 10.1117/12.2548920

**Funding Details:**

**Funding text:** We acknowledge the Project(A01GY19EX06) Funded by the leap Program of talent in Shanghai polytechnic University.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**3. Research on Time Series Anomaly Detection Algorithm and Application**

**Accession number:** 20201108285310

**Authors:** Zhao, Zhiyang (1); Zhang, Yang (1); Zhu, Xianxun (1); Zuo, Jiancun (2)

**Author affiliation:** (1) Shanghai Polytechnic University, School of Environmental and Materials Engineering, Shanghai, China; (2) Shanghai Polytechnic University, School of Computer and Information Engineering, China

**Source title:** Proceedings of 2019 IEEE 4th Advanced Information Technology, Electronic and Automation Control Conference, IAEAC 2019

**Abbreviated source title:** Proc. IEEE Adv. Inf. Technol., Electron. Autom. Control Conf., IAEAC

**Part number:** 1 of 1

**Issue title:** Proceedings of 2019 IEEE 4th Advanced Information Technology, Electronic and Automation Control Conference, IAEAC 2019

**Issue date:** December 2019

**Publication year:** 2019

**Pages:** 16-20

**Article number:** 8997819

**Language:** English

**ISBN-13:** 9781728119076

**Document type:** Conference article (CA)

**Conference name:** 4th IEEE Advanced Information Technology, Electronic and Automation Control Conference, IAEAC 2019

**Conference date:** December 20, 2019 - December 22, 2019

**Conference location:** Chengdu, China

**Conference code:** 157790

**Sponsor:** Chengdu Global Union Academy of Science and Technology; Chongqing Geeks Education Technology Co., Ltd; Chongqing Global Union Academy of Science and Technology; Global Union Academy of Science and Technology; IEEE Beijing Section; School of Science, Lanzhou University of Technology

**Publisher:** Institute of Electrical and Electronics Engineers Inc.

**Abstract:** Time series analysis is a research hotspot in the field of data mining, and it is very meaningful to find outpoints from time series data. This paper introduces the principle of time series anomaly subsequences detection, analyzes three anomaly detection algorithm based on time series in detail, and compares their advantages and disadvantages. Finally, it summarizes the key development direction of time series anomaly detection algorithm. © 2019 IEEE.

**Number of references:** 21

**Main heading:** Anomaly detection

**Controlled terms:** Data mining  -  Signal detection  -  Time series  -  Time series analysis

**Uncontrolled terms:** advantages and disadvantages  -  Anomaly-detection algorithms  -  Development directions  -  Hot spot  -  Time-series data

**Classification code:** 716.1 Information Theory and Signal Processing  -  723.2 Data Processing and Image Processing  -  922.2 Mathematical Statistics

**DOI:** 10.1109/IAEAC47372.2019.8997819

**Funding Details:**

**Funding text:** This work was supported by the Graduate Program Foundation of Shanghai Polytechnic University under Grant No. EGD19YJ0103.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**4. Study on Dynamics Properties of High Speed Ball Bearing Considering Eccentric Load of Shaft**

**Accession number:** 20200408061211

**Authors:** Zhang, Hongsheng (1); Cui, Li (1)

**Author affiliation:** (1) Shanghai Polytechnic University, College of Engineering, Shanghai, China

**Corresponding author:** Cui, Li(cuili@sspu.edu.cn)

**Source title:** 2019 Prognostics and System Health Management Conference, PHM-Qingdao 2019

**Abbreviated source title:** Progn. Syst. Heal. Manag. Conf., PHM-Qingdao

**Part number:** 1 of 1

**Issue title:** 2019 Prognostics and System Health Management Conference, PHAI-Qingdao 2019

**Issue date:** October 2019

**Publication year:** 2019

**Article number:** 8943013

**Language:** English

**ISBN-13:** 9781728108612

**Document type:** Conference article (CA)

**Conference name:** 10th Prognostics and System Health Management Conference, PHM-Qingdao 2019

**Conference date:** October 25, 2019 - October 27, 2019

**Conference location:** Qingdao, China

**Conference code:** 156405

**Sponsor:** et al.; Key Laboratory of Aviation Technology for Fault Diagnosis and Health Management Research, AVIC SAMRI; Key Laboratory of Space Utilization, CAS; Qinda Technology Co., Ltd; Qingdao West Coast New Area Association for Science and Technology; Reliability Division of Operations and Research Society of China

**Publisher:** Institute of Electrical and Electronics Engineers Inc.

**Abstract:** Taking 7309 ball bearing as the research object to study the dynamic characteristics of high speed ball bearing which considering eccentric load of shaft. The finite element model is established by ANSYS/LS-DYNA. The load is applied on the bearing and the dynamics simulation analysis is carried out. Bending moment is used as a variable to analyze displacement, stress, velocity and acceleration of the bearing. Stress distribution and vibration of the bearing with different bending moment are analyzed. Simulation results show that when the eccentric load increases, the maximum stress of each part of the bearing rises, the frequency of the impact stress increases. The analytical method and model in the present paper could aid in the design of ball bearings. © 2019 IEEE.

**Number of references:** 13

**Main heading:** Finite element method

**Controlled terms:** Ball bearings  -  Bending moments  -  Dynamic analysis  -  Systems engineering  -  Vibration analysis

**Uncontrolled terms:** Analytical method  -  component  -  Dynamic characteristics  -  Dynamics simulation  -  Eccentric loads  -  Impact stress  -  Maximum stress  -  Research object

**Classification code:** 408.2 Structural Members and Shapes  -  601.2 Machine Components  -  921.6 Numerical Methods  -  961 Systems Science

**DOI:** 10.1109/PHM-Qingdao46334.2019.8943013

**Funding Details:** Number: XXKZD1601, Acronym: -, Sponsor: -; Number: 51675323, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;

**Funding text:** This work was financially supported by the National Natural Science Foundation of China (No. 51675323), The key subject of Shanghai Polytechnic University (Material Science and Engineering, XXKZD1601).

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**5. Hyper heuristic method based on improved GEP for scheduling problems in shop floor**

**Accession number:** 20200608122655

**Authors:** Nie, Li (1); Bai, Yuewei (1); Fang, Xiaohong (1); Wang, Xiaogang (1)

**Author affiliation:** (1) Shanghai Polytechnic University, College of Engineering, Shanghai, China

**Source title:** Proceedings of the 2019 International Conference on Industrial Engineering and Systems Management, IESM 2019

**Abbreviated source title:** Proc. Int. Conf. Ind. Eng. Syst. Manag., IESM

**Part number:** 1 of 1

**Issue title:** Proceedings of the 2019 International Conference on Industrial Engineering and Systems Management, IESM 2019

**Issue date:** September 2019

**Publication year:** 2019

**Article number:** 8948205

**Language:** English

**ISBN-13:** 9781728115665

**Document type:** Conference article (CA)

**Conference name:** 2019 International Conference on Industrial Engineering and Systems Management, IESM 2019

**Conference date:** September 25, 2019 - September 27, 2019

**Conference location:** Shanghai, China

**Conference code:** 156681

**Publisher:** Institute of Electrical and Electronics Engineers Inc.

**Abstract:** Considering the complex and inexplicit relationship between the working conditions and scheduling performance in shop floor, the paper proposed a hyper heuristic method based on gene expression programming (GEP) to customize efficient job dispatch rules and machine assignment rules for scheduling problems in shop floor. Since the traditional GEP has the shortcomings such as slow speed, inadequate precision and many parameters, which are not suitable for the actual environment, the paper made improvements on traditional GEP in two aspects: individual structure and the population evolution adaptation strategy. Through the simulation experiments the efficiency of the improved GEP machine learning approach is validated. © 2019 IEEE.

**Number of references:** 17

**Main heading:** Heuristic methods

**Controlled terms:** Floors  -  Gene expression  -  Heuristic programming  -  Learning systems  -  Machine learning  -  Production control  -  Scheduling

**Uncontrolled terms:** Adaptation strategies  -  Gene expression programming  -  Individual structures  -  Machine learning approaches  -  Population evolution  -  Production scheduling problems  -  Scheduling performance  -  Scheduling rules

**Classification code:** 402 Buildings and Towers  -  461.9 Biology  -  723.1 Computer Programming  -  912.2 Management  -  913.2 Production Control

**DOI:** 10.1109/IESM45758.2019.8948205

**Funding Details:** Number: 2017YFE0118700, Acronym: -, Sponsor: -; Number: 51605273, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: 51605273, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;

**Funding text:** National Natural Science Foundation of China under Grant No. 51605273 and U1537110 and the National Key R&D Program of China under Grant No. 2017YFE0118700.ACKNOWLEDGMENT The authors would like to thank the editor and anonymous referees for their valuable comments. This research is supported by the National Natural Science Foundation of China under Grant No. 51605273 and U1537110 and the National Key R&D Program of China under Grant No. YS2017YFGH000967.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**6. Anti-counterfeiting layer of 2D Colloidal Crystal Based Photonic Material**

**Accession number:** 20203509098973

**Authors:** Chen, Cheng (1); Wang, Xiaohui (1); Dong, Zhiqiang (1); Chen, Gong (1); Han, Luxiao (1); Zhu, Zhigang (1, 2)

**Author affiliation:** (1) School of Environmental and Materials Engineering, College of Engineering, Shanghai Polytechnic University, Shanghai; 201209, China; (2) Research Center of Resource Recycling Science and Engineering, Shanghai Polytechnic University, Shanghai; 201209, China

**Source title:** Materials Science Forum

**Abbreviated source title:** Mater. Sci. Forum

**Volume:** 972 MSF

**Part number:** 1 of 1

**Issue title:** Building Materials, Materials Design and Applications

**Issue date:** 2019

**Publication year:** 2019

**Pages:** 185-190

**Language:** English

**ISSN:** 02555476

**E-ISSN:** 16629752

**CODEN:** MSFOEP

**ISBN-13:** 9783035715309

**Document type:** Conference article (CA)

**Conference name:** 4th International Conference on Building Materials and Construction, ICBMC 2019 and the 2nd International Conference on Materials Design and Applications, ICMDA 2019

**Conference date:** April 13, 2019 - April 15, 2019

**Conference location:** Tokyo, Japan

**Conference code:** 242199

**Publisher:** Trans Tech Publications Ltd

**Abstract:** A facile approach of robust polymer-based two-dimensional (2D) colloidal crystal (CC) layers was presented. This technology enables the convenient fabrication of an anti-counterfeiting coating with a polymeric 2D CC, allowing the fast preparation of functional polymer photonic materials. Briefly, a 2D CC was prepared by self-assembly of polystyrene (PS) submicrospheres, which was then transferred to substrates by adhesive polymeric solution and cured to form a photonic film. Such photonic films strongly and angle dependently diffract visible light, and the high transparency of the photonic layers ensured the readout from the substrate. The PC layers can also prevent the re-write or re-print on the substrate, indicating the potential applications in colorful and anti-counterfeiting coating materials. © 2019 Trans Tech Publications Ltd, Switzerland.

**Number of references:** 19

**Main heading:** Film preparation

**Controlled terms:** Adhesives  -  Architectural design  -  Building materials  -  Crystals  -  Plastic coatings  -  Sols  -  Substrates

**Uncontrolled terms:** Anti-counterfeiting  -  Coating material  -  Colloidal crystals  -  High transparency  -  Photonic materials  -  Polymer photonics  -  Polymeric solution  -  Two Dimensional (2 D)

**Classification code:** 402 Buildings and Towers  -  804 Chemical Products Generally  -  813.2 Coating Materials  -  933.1 Crystalline Solids

**DOI:** 10.4028/www.scientific.net/MSF.972.185

**Funding Details:** Number: EGD18YJ0048, Acronym: -, Sponsor: -; Number: 14SG52, Acronym: -, Sponsor: Shanghai Municipal Education Commission; Number: 21504051, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;

**Funding text:** This work was supported by the National Natural Science Foundation of China (61471233, 21504051), the Program for Professor of Special Appointment (Eastern Scholar) at SIHL, Shuguang project supported by Shanghai Municipal Education Commission (14SG52), the Key Subject and the Graduate Program of Shanghai Polytechnic University (XXKZD1601, EGD18YJ0048).

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**7. Research and development of intelligent safe storage cabinet management system**

**Accession number:** 20200508099419

**Authors:** Zheng, Jian (1); Chen, Zhiyi (1)

**Author affiliation:** (1) College of Computer and Information Engineering, Shanghai Polytechnic University, Shanghai, China

**Source title:** ACM International Conference Proceeding Series

**Abbreviated source title:** ACM Int. Conf. Proc. Ser.

**Part number:** 1 of 1

**Issue title:** Proceedings of the International Conference on Advanced Information Science and System, AISS 2019

**Issue date:** November 15, 2019

**Publication year:** 2019

**Language:** English

**ISBN-13:** 9781450372916

**Document type:** Conference article (CA)

**Conference name:** 2019 International Conference on Advanced Information Science and System, AISS 2019

**Conference date:** November 15, 2019 - November 17, 2019

**Conference location:** Singapore, Singapore

**Conference code:** 156850

**Publisher:** Association for Computing Machinery

**Abstract:** This paper mainly takes the present safe storage cabinet as the research object, carries on the research and the development. Through communicating requirements with enterprises, a set of intelligent safe storage cabinet management system developed to realize centralized management of safe storage cabinet and solve the problem of integrated control of chemical management information and detection information of multiple safe storage cabinets. The system consists of hardware and software. The main functions of the software are various gas detection, temperature and humidity detection, personnel management, chemical use management, alarm and related equipment control. The hardware mainly consists of control center, access control identification, security storage cabinet control, air conditioning control, filtering, and exhaust control and alarm device. The intelligent safety storage cabinet management system solves the complexity of chemical management in large chemical enterprises and greatly improves the work efficiency. With high safety and reliability, the system can understand the status of each storage cabinet in the chemical warehouse in real time and deal with emergencies in time. In the realization of chemical role of information management. The intelligent management of safe storage cabinets in chemical warehouses can achieve real-time control and other aspects have certain innovation. © 2019 Association for Computing Machinery.

**Number of references:** 10

**Main heading:** Information management

**Controlled terms:** Access control  -  Air conditioning  -  Chemical detection  -  Chemical equipment  -  Chemicals  -  Human resource management  -  Humidity control  -  Integration  -  Integration testing  -  Management   -  Real time control  -  Research and development management  -  Storage management  -  Testing  -  Warehouses

**Uncontrolled terms:** Air conditioning controls  -  Centralized management  -  Detection informations  -  Hardware and software  -  Intelligent management  -  Personnel management  -  Research and development  -  Temperature and humidities

**Classification code:** 643.3 Air Conditioning  -  694.4 Storage  -  723 Computer Software, Data Handling and Applications  -  731 Automatic Control Principles and Applications  -  801 Chemistry  -  802.1 Chemical Plants and Equipment  -  803 Chemical Agents and Basic Industrial Chemicals  -  804 Chemical Products Generally  -  912.2 Management  -  921.2 Calculus

**DOI:** 10.1145/3373477.3373482

**Funding Details:** Number: XXKZD1604, Acronym: -, Sponsor: -;

**Funding text:** The project has been strongly support by the computer application department teaching team of Computer and engineering school. We would like to appreciate for the key disciplines of Computer science and technology (No. XXKZD1604).

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**8. Intention classification based on transfer learning: A case study on insurance data**

**Accession number:** 20201208325231

**Authors:** Tang, Shan (1, 2); Liu, Qiang (2); Tan, Wen-an (1)

**Author affiliation:** (1) Shanghai Polytechnic University, Shanghai, China; (2) Shanghai Zhipan Intelligent Technology Co., Ltd., Shanghai, China

**Corresponding author:** Tang, Shan(tangshan@sspu.edu.cn)

**Source title:** Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)

**Abbreviated source title:** Lect. Notes Comput. Sci.

**Volume:** 11956 LNCS

**Part number:** 1 of 1

**Issue title:** Human Centered Computing - 5th International Conference, HCC 2019, Revised Selected Papers

**Issue date:** 2019

**Publication year:** 2019

**Pages:** 363-370

**Language:** English

**ISSN:** 03029743

**E-ISSN:** 16113349

**ISBN-13:** 9783030374280

**Document type:** Conference article (CA)

**Conference name:** 5th International Conference on Human Centered Computing, HCC 2019

**Conference date:** August 5, 2019 - August 7, 2019

**Conference location:** aak, Serbia

**Conference code:** 238089

**Publisher:** Springer

**Abstract:** With the rapid development of Artificial Intelligence and Big Data technology, intelligent chatbot in insurance industry has become the major technical means to reduce labor costs and improve the quality of service. The core technology of this application is to understand and classify the users’ intentions accurately. However, insurance as a product with complex knowledge system and long service cycle, users’ intentions and the corresponding corpus is rather scattered. The initial corpus is especially scarce at the early stage of new business. So it is very important to classify the customers’ intentions accurately based on the rare corpus. This paper offers an empirical case study on intention classification of insurance data by using transfer learning model BERT. The experimental comparative analysis result shows that method based on BERT model can better reduce the error rate than other existing model methods (TextCNN, HAN, ELMo). © Springer Nature Switzerland AG 2019.

**Number of references:** 10

**Main heading:** Transfer learning

**Controlled terms:** Classification (of information)  -  Insurance  -  Learning systems  -  Quality of service  -  Service industry  -  Wages

**Uncontrolled terms:** Chatbot  -  Comparative analysis  -  Core technology  -  Data technologies  -  Empirical case studies  -  Insurance industry  -  Knowledge system  -  Service cycle

**Classification code:** 716.1 Information Theory and Signal Processing  -  912.4 Personnel

**DOI:** 10.1007/978-3-030-37429-7\_36

**Funding Details:** Number: XXKZD1604, Acronym: -, Sponsor: -; Number: 18PJ1433400, Acronym: -, Sponsor: -;

**Funding text:** Acknowledgment. This work is sponsored by Shanghai Pujiang Program under Grant No. 18PJ1433400, Key Disciplines of Computer Science and Technology of Shanghai Polytechnic University under Grant No. XXKZD1604, and Leap Funding of SSPU Scientific Research under Grant No. EGD19XQD09.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**9. Structural Design and Simulation of Automobile Tailgate Electric Pole**

**Accession number:** 20201108285362

**Authors:** Li, Qingmei (1); Jiang, Jia (1); Fan, Xin (1)

**Author affiliation:** (1) Shanghai Polytechnic University, School of Intelligent Manufacturing and Control Engineering, Shanghai, China

**Source title:** Proceedings of 2019 IEEE 4th Advanced Information Technology, Electronic and Automation Control Conference, IAEAC 2019

**Abbreviated source title:** Proc. IEEE Adv. Inf. Technol., Electron. Autom. Control Conf., IAEAC

**Part number:** 1 of 1

**Issue title:** Proceedings of 2019 IEEE 4th Advanced Information Technology, Electronic and Automation Control Conference, IAEAC 2019

**Issue date:** December 2019

**Publication year:** 2019

**Pages:** 1826-1829

**Article number:** 8997770

**Language:** English

**ISBN-13:** 9781728119076

**Document type:** Conference article (CA)

**Conference name:** 4th IEEE Advanced Information Technology, Electronic and Automation Control Conference, IAEAC 2019

**Conference date:** December 20, 2019 - December 22, 2019

**Conference location:** Chengdu, China

**Conference code:** 157790

**Sponsor:** Chengdu Global Union Academy of Science and Technology; Chongqing Geeks Education Technology Co., Ltd; Chongqing Global Union Academy of Science and Technology; Global Union Academy of Science and Technology; IEEE Beijing Section; School of Science, Lanzhou University of Technology

**Publisher:** Institute of Electrical and Electronics Engineers Inc.

**Abstract:** Electric pole is an important equipment to automatically open or close the tailgate of vehicle. To make its structure compact, a planetary reducer with fewer teeth is designed for the electric pole. Then, the mechanical and electrical analysis is applied to the electric pole. Mechatronics simulation is carried out in Matlab and the results show that the electric pole designed can reach specified angles. © 2019 IEEE.

**Number of references:** 7

**Main heading:** Poles

**Controlled terms:** MATLAB  -  Structural design

**Uncontrolled terms:** Design and simulation  -  Electric poles  -  Mechanical and electrical  -  Mechatronics simulation  -  planetary reducer  -  tailgate

**Classification code:** 408.1 Structural Design, General  -  408.2 Structural Members and Shapes  -  921 Mathematics

**DOI:** 10.1109/IAEAC47372.2019.8997770

**Funding Details:** Number: CXYEGD2018003, Acronym: -, Sponsor: -;

**Funding text:** This research is supported by Practical Study Program for Teachers’ Production, Learning and Research in Colleges and Universities of Shanghai Education Commission (CXYEGD2018003). Mechanical Engineering, the Key Subject of Shanghai Polytechnic University (XXKZD1603 A11NH190715-31).

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**10. Continuous path-based range keyword queries on road networks**

**Accession number:** 20200408084548

**Authors:** Chen, Fangshu (1); Zhang, Pengfei (2); Lin, Huaizhong (2); Tang, Shan (3)

**Author affiliation:** (1) College of Computer Science and Information Engineering, Shanghai Polytechnic University, Shanghai, China; (2) College of Computer Science and Technology, Zhejiang University, Hangzhou, China; (3) Shanghai Zhi Pan Intelligent Technology Co.Ltd., Shanghai Polytechnic University, Shanghai, China

**Source title:** Proceedings - 10th IEEE International Conference on Big Knowledge, ICBK 2019

**Abbreviated source title:** Proc. - IEEE Int. Conf. Big Knowl., ICBK

**Part number:** 1 of 1

**Issue title:** Proceedings - 10th IEEE International Conference on Big Knowledge, ICBK 2019

**Issue date:** November 2019

**Publication year:** 2019

**Pages:** 42-49

**Article number:** 8944738

**Language:** English

**ISBN-13:** 9781728146065

**Document type:** Conference article (CA)

**Conference name:** 10th IEEE International Conference on Big Knowledge, ICBK 2019

**Conference date:** November 10, 2019 - November 11, 2019

**Conference location:** Beijing, China

**Conference code:** 156494

**Publisher:** Institute of Electrical and Electronics Engineers Inc.

**Abstract:** In this paper, we study the continuous path-based range keyword queries, which find the answer set continuously when the query point q moves along a given path P on the road network. This type of queries have many real applications, whereas leading to challenges as issuing the query at each point on P is expensive and infeasible. To answer the query, we transform it to the issue of identifying a set of event points. Specifically, the event point captures the query point where the answer set changes, and query points between two adjacent event points share the same answer set. To identify event points efficiently, we develop a backbone network index (BNI) over a simplified network topology, which supports efficient distance computations and offers insights for keyword tests. Moreover, we develop a two-phase progressive (TPP) query processing framework over BNI. The first phase performs range keyword queries to get answer sets for a fraction of vertices on P. Note that this can be achieved by only issuing the query once. In the second phase, event points are identified with these retrieved answer sets. Extensive experiments on both real and synthetic datasets show that our algorithm outperforms competitor by several orders of magnitude. © 2019 IEEE.

**Number of references:** 25

**Main heading:** Query processing

**Controlled terms:** Motor transportation  -  Roads and streets

**Uncontrolled terms:** Back-bone network  -  Distance computation  -  Index structure  -  Keyword queries  -  Orders of magnitude  -  Real applications  -  Synthetic datasets  -  Two phase

**Classification code:** 406.2 Roads and Streets

**DOI:** 10.1109/ICBK.2019.00014

**Funding Details:** Number: EGD18XQD02, Acronym: -, Sponsor: -; Number: XXKZD1604, Acronym: -, Sponsor: -; Number: 18PJ1433400, Acronym: -, Sponsor: -; Number: 2018007, Acronym: -, Sponsor: -;

**Funding text:** ACKNOWLEDGMENT This work is supported by the Key Disciplines of Computer Science and Technology of Shanghai Polytechnic University (No. XXKZD1604), the Research Project of Shanghai Polytechnic University (No. EGD18XQD02), the Cultural Relic Protection Science and Technology project of Zhejiang Province (No. 2018007), and Shanghai Pujiang Program under Grant No.18PJ1433400.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**11. An early warning system of tram safety protection based on multi-information detection**

**Accession number:** 20201208325243

**Authors:** Xiao, Binjie (1)

**Author affiliation:** (1) Shanghai Second Polytechnic University, Shanghai, China

**Corresponding author:** Xiao, Binjie(Binjiexiao@163.com)

**Source title:** Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)

**Abbreviated source title:** Lect. Notes Comput. Sci.

**Volume:** 11956 LNCS

**Part number:** 1 of 1

**Issue title:** Human Centered Computing - 5th International Conference, HCC 2019, Revised Selected Papers

**Issue date:** 2019

**Publication year:** 2019

**Pages:** 476-482

**Language:** English

**ISSN:** 03029743

**E-ISSN:** 16113349

**ISBN-13:** 9783030374280

**Document type:** Conference article (CA)

**Conference name:** 5th International Conference on Human Centered Computing, HCC 2019

**Conference date:** August 5, 2019 - August 7, 2019

**Conference location:** aak, Serbia

**Conference code:** 238089

**Publisher:** Springer

**Abstract:** Aiming at the existing collision accidents with motor vehicles and pedestrians in the operation of tram, a tram safety protection early warning system is proposed, which can automatically analyze and interpret dangerous objects in the direction of moving forward. The system uses ranging sensor (Ultrasonic, Camera, Ranging radar) and infrared video information to obtain the accurate distance between the obstacle and the locomotive. The obstacle type and potential running speed can be obtained by infrared image recognition and classification. According to the direction of the tram, the distance, type and speed of the obstacles, the safety level of the obstacles can be determined. The above analysis and interpretation results are displayed intuitively on the on-board display and reminder unit. Relevant technologies can effectively improve the ability of the tram driver to obtain information, automatically detect obstacles and judge the degree of danger, and improve the safety of the tram. © Springer Nature Switzerland AG 2019.

**Number of references:** 6

**Main heading:** Railroad rolling stock

**Controlled terms:** Accidents  -  Image recognition  -  Infrared imaging  -  Obstacle detectors  -  Pedestrian safety  -  Ultrasonic applications

**Uncontrolled terms:** Collision accidents  -  Dangerous objects  -  Early Warning System  -  Information detection  -  Obstacle detection  -  Safety level  -  Safety protection  -  Trams

**Classification code:** 682.1 Railroad Rolling Stock, General  -  746 Imaging Techniques  -  753.3 Ultrasonic Applications  -  914.1 Accidents and Accident Prevention

**DOI:** 10.1007/978-3-030-37429-7\_47

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**12. Study of the modulating efficiency of white LED with different rated powers**

**Accession number:** 20200508093029

**Authors:** Gui, Lin (1, 2); Song, Su-Zhen (1); Zhu, Yu-Xuan (1); Shen, Honglin (1); Cai, Xueyi (1); Zhu, Zixin (1)

**Author affiliation:** (1) College of Computer and Information Engineering, Shanghai Second Polytechnic University, Shanghai; 201209, China; (2) School of Environmental and Materials Engineering., Shanghai Second Polytechnic University, Shanghai; 201209, China

**Source title:** Proceedings of SPIE - The International Society for Optical Engineering

**Abbreviated source title:** Proc SPIE Int Soc Opt Eng

**Volume:** 11209

**Part number:** 1 of 1

**Issue title:** Eleventh International Conference on Information Optics and Photonics, CIOP 2019

**Issue date:** 2019

**Publication year:** 2019

**Article number:** 112092Q

**Language:** English

**ISSN:** 0277786X

**E-ISSN:** 1996756X

**CODEN:** PSISDG

**ISBN-13:** 9781510631731

**Document type:** Conference article (CA)

**Conference name:** 11th International Conference on Information Optics and Photonics, CIOP 2019

**Conference date:** August 6, 2019 - August 9, 2019

**Conference location:** Xi’an, China

**Conference code:** 156655

**Publisher:** SPIE

**Abstract:** For a VLC system, it transmits information by modulating LED with electrical signal. To ensure the sufficient optical power at the receiver, the electrical signal with large amplitude is hope to be applied on the LED, however, the LED has the turn-on voltage and the saturated voltage, so large electrical signal in transmitter will lead to the clipping distortion on the LED in theory. In this paper, the modulating efficiencies of white light LED with the rated power 1W, 0.5W and 0.1W are measured in experiment with the biased voltage 3.4V, and their modulating property are compared when the peak-peak AC voltage of the frequency 500KHz are in the range 0.5V-2.1Vpp and 2.2-5Vpp. In the experiment, an Arbitrary waveform generator (AWG) with the voltage bias function is utilized to generate a biased sine waveform Experimental results show that the slopes of Pe-Vt curve(modulating efficiency) increase with the drop of the rated power of LED at the frequency 500KHz in region I. In region II, the slopes of 1W LED and 0.1W LED are larger than that of 0.5W LED. The modulating efficiency is higher in region II than that in region I. When LED operate at the clipping distortion region, it has large modulating efficiency. Data fitting analysis shows that the 1W LED has the poor linearity in both region because its R-squares in both regions are smaller than other LEDs. The nonlinearity of the Pe-Vt curve will affect the modulating efficiency. © 2019 SPIE.

**Number of references:** 5

**Main heading:** Visible light communication

**Controlled terms:** Efficiency  -  Light  -  Light emitting diodes  -  Nonlinear distortion  -  Photonics  -  Signal receivers

**Uncontrolled terms:** Arbitrary waveform generator  -  Clipping distortion  -  Electrical signal  -  Large amplitude  -  nonlinearity  -  Turn-on voltages  -  Visible light communications (VLC)  -  White-light LEDs

**Classification code:** 714.2 Semiconductor Devices and Integrated Circuits  -  716.1 Information Theory and Signal Processing  -  717.1 Optical Communication Systems  -  741.1 Light/Optics  -  913.1 Production Engineering

**Numerical data indexing:** Power 1.00e+00W, Power 1.00e-01W, Power 5.00e-01W, Voltage 3.40e+00V

**DOI:** 10.1117/12.2548544

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**13. Data Analysis and Accuracy Evaluation of a Continuous Glucose-Monitoring Device    (*Open Access*)**

**Accession number:** 20200408059983

**Authors:** Cai, Lijun (1, 2); Ge, Wancheng (1); Zhu, Zhigang (3); Zhao, Xueling (3); Li, Zhanhong (3)

**Author affiliation:** (1) College of Electronic and Information Engineering, Tongji University, 1239 Siping Road, Shanghai; 200092, China; (2) Engineering Training Center, Shanghai Polytechnic University, 2360 Jin Hai Road, Pudong District, Shanghai; 201209, China; (3) School of Environmental and Materials Engineering, College of Engineering, Shanghai Polytechnic University, 2360 Jin Hai Road, Pudong District, Shanghai; 201209, China

**Corresponding author:** Ge, Wancheng(gwc828@tongji.edu.cn)

**Source title:** Journal of Sensors

**Abbreviated source title:** J. Sensors

**Volume:** 2019

**Issue date:** 2019

**Publication year:** 2019

**Article number:** 4896862

**Language:** English

**ISSN:** 1687725X

**E-ISSN:** 16877268

**Document type:** Journal article (JA)

**Publisher:** Hindawi Limited, 410 Park Avenue, 15th Floor, 287 pmb, New York, NY 10022, United States

**Abstract:** This study was aimed at analyzing data and evaluating the accuracy of a new subcutaneous continuous glucose-monitoring device by referring to finger-pricking measurement. The data were obtained from 7 diabetic patients. An improved implanted flex sensor was used to measure the interstitial glucose concentration every 3 min within 6 days, and five finger-pricking samples were collected every day for comparison. A periodic glucose change happened every day. 2.45% of CGM values were in the hypoglycemic range (180 mg/dl). The interstitial glucose concentrations (n=204) were well linearly correlated with the capillary glucose concentrations (r=0.94, P © 2019 Lijun Cai et al.

**Number of references:** 17

**Main heading:** Glucose

**Controlled terms:** Sensors

**Uncontrolled terms:** Accuracy evaluation  -  Average delay  -  Continuous glucose monitoring  -  Diabetic patient  -  Error grid analysis  -  Glucose concentration  -  Hypoglycemic range  -  New devices

**Classification code:** 804.1 Organic Compounds

**Numerical data indexing:** Age 1.64e-02yr, Mass\_Density 7.00e-01kg/m3 to 1.80e+00kg/m3, Percentage 1.02e+01%, Percentage 1.27e+01%, Percentage 2.45e+00%, Percentage 4.21e+01%, Percentage 5.54e+01%, Percentage 6.00e-01%, Percentage 8.67e+01%, Time 1.48e+03s, Time 1.80e+02s, Time 6.00e+02s to 2.40e+03s

**DOI:** 10.1155/2019/4896862

**Funding Details:** Number: -, Acronym: -, Sponsor: Program for Professor of Special Appointment (Eastern Scholar) at Shanghai Institutions of Higher Learning; Number: 61471233, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;

**Funding text:** This work was supported by the National Natural Science Foundation of China (No. 61471233) and the Program for Professor of Special Appointment (Eastern Scholar) at Shanghai Institutions of Higher Learning.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**14. Strain Measurement Quantization Technology based on das System**

**Accession number:** 20200908241091

**Authors:** Zhang, Yang (1); Zhao, Howell (2); Zhu, Xianxun (1); Zhao, Zhiyang (1); Zuo, Jiancun (1)

**Author affiliation:** (1) Shanghai Polytechnic University, School of Computer and Information Engineering, China; (2) Shanghai Bandweaver Technologies Co. Ltd., Shanghai, China

**Source title:** Proceedings of 2019 IEEE 3rd Advanced Information Management, Communicates, Electronic and Automation Control Conference, IMCEC 2019

**Abbreviated source title:** Proc. IEEE Adv. Inf. Manag., Commun., Electron. Autom. Control Conf., IMCEC

**Part number:** 1 of 1

**Issue title:** Proceedings of 2019 IEEE 3rd Advanced Information Management, Communicates, Electronic and Automation Control Conference, IMCEC 2019

**Issue date:** October 2019

**Publication year:** 2019

**Pages:** 214-218

**Article number:** 8984025

**Language:** English

**ISBN-13:** 9781728105130

**Document type:** Conference article (CA)

**Conference name:** 3rd IEEE Advanced Information Management, Communicates, Electronic and Automation Control Conference, IMCEC 2019

**Conference date:** October 11, 2019 - October 13, 2019

**Conference location:** Chongqing, China

**Conference code:** 157524

**Sponsor:** Chengdu Global Union Academy of Science and Technology; Chongqing Geeks Education Technology Co., Ltd; Chongqing Global Union Academy of Science and Technology; Global Union Academy of Science and Technology; IEEE Beijing Section

**Publisher:** Institute of Electrical and Electronics Engineers Inc.

**Abstract:** In view of the application requirements of fiber optic sensing technology in the field of strain measurement, this paper considers the DAS system to measure the strain, and takes the input voltage of PZT as the intermediate variable. It also proposes a new approach to processing the DAS signal based on spaceaverage in frequency domain, and obtains the functional model of microstrain and DAS signal strength. © 2019 IEEE.

**Number of references:** 14

**Main heading:** Strain measurement

**Controlled terms:** Frequency domain analysis  -  Information management

**Uncontrolled terms:** Application requirements  -  Fiber-optic sensing technology  -  Frequency domains  -  Functional model  -  Quantization technologies  -  Signal strengths  -  space-average  -  Strain sensing

**Classification code:** 921.3 Mathematical Transformations  -  943.2 Mechanical Variables Measurements

**DOI:** 10.1109/IMCEC46724.2019.8984025

**Funding Details:**

**Funding text:** This work was supported by the Graduate Program Foundation of Shanghai Polytechnic University under Grant No. EGD18YJ0045.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**15. Flipping the interpretation course with rain classroom: A survey of students’ attitudes and perceptions**

**Accession number:** 20200508099333

**Authors:** Wu, Lingjuan (1)

**Author affiliation:** (1) School of Foreign Languages, College of Arts and Sciences, Shanghai Polytechnic University, NO.2360 Jinhai Road, Pudong New Area, Shanghai, China

**Corresponding author:** Wu, Lingjuan(hillarywu2004@163.com)

**Source title:** ACM International Conference Proceeding Series

**Abbreviated source title:** ACM Int. Conf. Proc. Ser.

**Part number:** 1 of 1

**Issue title:** ICEEL 2019 - 2019 the 3rd International Conference on Education and E-Learning

**Issue date:** November 5, 2019

**Publication year:** 2019

**Pages:** 67-72

**Language:** English

**ISBN-13:** 9781450372251

**Document type:** Conference article (CA)

**Conference name:** 3rd International Conference on Education and E-Learning, ICEEL 2019

**Conference date:** November 5, 2019 - November 7, 2019

**Conference location:** Barcelona, Spain

**Conference code:** 156815

**Publisher:** Association for Computing Machinery

**Abstract:** Responding to students’ concerns over the instructional approach and the learning effect of the traditional interpretation course, the present study proposes a flipped classroom model for the interpretation course with the help of Rain Classroom, a powerful tool for blended teaching and learning both in and out of class. The implementation of this flipped interpretation class is elaborated and students’ attitudes and perceptions towards this instructional strategy and its learning effect are examined through a questionnaire survey and an interview. The results reveal that the students prefer the flipped interpretation class to the traditional interpretation class, with highly positive opinions of the flipped classroom model and the learning effect. In addition, the benefits of this flipped interpretation class supported by Rain Classroom are explored. On the one hand, Rain Classroom facilitates the self-regulated learning by providing a rich variety of learning materials readily available on the smartphone and creating a supportive, technology-enhanced learning environment featuring sufficient feedback and efficient monitoring. On the one hand, the face-to-face learning in class turns out to be more productive and efficient as more time is freed up for active forms of learning such as solving learning problems and interpreting practice. © 2019 Association for Computing Machinery.

**Number of references:** 10

**Main heading:** Students

**Controlled terms:** Computer aided instruction  -  E-learning  -  Education computing  -  Learning systems  -  Rain  -  Surveys  -  Teaching

**Uncontrolled terms:** Attitudes and perceptions  -  Face-to-face learning  -  Flipped classroom  -  Instructional strategy  -  Interpretation practice  -  Interpretation skills  -  Self-regulated learning  -  Technology enhanced learning

**Classification code:** 443.3 Precipitation  -  723.5 Computer Applications

**DOI:** 10.1145/3371647.3371660

**Funding Details:** Number: XXKPY1605, Acronym: -, Sponsor: -;

**Funding text:** Table 2. Students’ Attitudes toward the Flipped Interpretation Class Supported by Rain Classroom (n=42)The present study was sponsored by the Science and Technology Development Fund 2019 (No.: EGDXQ19D21) and the Project of Building Foreign Language and Literature Discipline, Shanghai Polytechnic University (No.:XXKPY1605)

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**16. Sensor Selection Method for Target Tracking based on Hybrid Binary Whale Optimization Algorithm in Wireless Sensor Networks**

**Accession number:** 20201808603003

**Authors:** Wang, Ke (1); Jiang, Xiaoxiao (1); Jiang, Yujie (2)

**Author affiliation:** (1) Shanghai University of Engineering Science, School of Electronic and Electrical Engineering, Shanghai, China; (2) Shanghai Polytechnic University, School of Computer and Information Engineering, Shanghai, China

**Source title:** 2019 IEEE 5th International Conference on Computer and Communications, ICCC 2019

**Abbreviated source title:** IEEE Int. Conf. Comput. Commun., ICCC

**Part number:** 1 of 1

**Issue title:** 2019 IEEE 5th International Conference on Computer and Communications, ICCC 2019

**Issue date:** December 1, 2019

**Publication year:** 2019

**Pages:** 592-596

**Article number:** 9064434

**Language:** English

**ISBN-13:** 9781728147437

**Document type:** Conference article (CA)

**Conference name:** 5th IEEE International Conference on Computer and Communications, ICCC 2019

**Conference date:** December 6, 2019 - December 9, 2019

**Conference location:** Chengdu, China

**Conference code:** 159225

**Publisher:** Institute of Electrical and Electronics Engineers Inc.

**Abstract:** Due to various resource limitations of wireless sensor networks, selecting the appropriate sensors to participate in target tracking is necessary. The real measurement data effects the target tracking accuracy, so this paper proposes a hybrid binary whale optimization algorithm (HBWOA). The proposed algorithm is used to solve the sensor selection model constructed using the actual measurement data and conditional posterior Cramer-Rao lower bound (CPCRLB). The proposed algorithm adopts the position update principle of V-shaped function, proposes nonlinear dynamic adaptive convergence factor to adaptively adjust the exploration and exploitation phase of algorithm, and proposes dynamic disturbance weight enhances the searchability in the exploration stage, which improves the convergence performance and the accuracy of algorithm search in the exploitation phase, avoids local optimization and improves the accuracy of algorithm search in the exploitation phase. Experimental simulations show that the proposed algorithm has better performance on target tracking problem than binary particle swarm optimization (BPSO), binary grey wolf optimization (BGWO), binary salp swarm algorithm (BSSA), and The traditional binary whale optimization algorithm (BWOA-s), it has a better balance between the exploration phase and the exploitation phase. © 2019 IEEE.

**Number of references:** 20

**Main heading:** Target tracking

**Controlled terms:** Clutter (information theory)  -  Cramer-Rao bounds  -  Particle swarm optimization (PSO)  -  Wireless sensor networks

**Uncontrolled terms:** Binary particle swarm optimization  -  Convergence performance  -  Cramer Rao lower bound  -  Dynamic disturbances  -  Experimental simulations  -  Exploration and exploitation  -  Optimization algorithms  -  Resource limitations

**Classification code:** 716.1 Information Theory and Signal Processing  -  716.3 Radio Systems and Equipment  -  723 Computer Software, Data Handling and Applications  -  922.2 Mathematical Statistics

**DOI:** 10.1109/ICCC47050.2019.9064434

**Funding Details:** Number: 61701295, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;

**Funding text:** ACKNOWLEDGMENT This work was supported by the National Natural Science Foundation of China under Grant 61701295.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**17. A novel experience-based incentive mechanism for mobile crowdsensing system**

**Accession number:** 20200308046430

**Authors:** Tan, Wenan (1, 2); Jiang, Zihui (1)

**Author affiliation:** (1) College of Computer Science and Technology, Nanjing University of Aeronautics and Astronautics, Nanjing Jiangsu, China; (2) School of Computer and Information Engineering, Shanghai Polytechnic University, Shanghai, China

**Corresponding author:** Jiang, Zihui(zihuijiang@nuaa.edu.cn)

**Source title:** ACM International Conference Proceeding Series

**Abbreviated source title:** ACM Int. Conf. Proc. Ser.

**Part number:** 1 of 1

**Issue title:** Proceedings of 2019 International Conference on Artificial Intelligence, Information Processing and Cloud Computing, AIIPCC 2019

**Issue date:** December 19, 2019

**Publication year:** 2019

**Article number:** a70

**Language:** English

**ISBN-13:** 9781450376334

**Document type:** Conference article (CA)

**Conference name:** 2019 International Conference on Artificial Intelligence, Information Processing and Cloud Computing, AIIPCC 2019

**Conference date:** December 19, 2019 - December 21, 2019

**Conference location:** Sanya, China

**Conference code:** 156190

**Sponsor:** Association for Science and Engineering (ASciE)

**Publisher:** Association for Computing Machinery

**Abstract:** While sensor networks have been pervasively deployed in the real world, more and more mobile crowdsensing (MCS) applications have come into realization to collaboratively detect events and collect data. This paper aims to design a novel incentive mechanism to achieve good services for mobile crowdsensing applications. Responding to insufficient participants, we propose a novel Experience-Based incentive mechanism using Reverse Auction (EBRA). Additionally, it can also guarantee fair competition while maximizing the total profit of the service platform. Through strictly proving, our proposed EBRA incentive mechanism satisfies four properties: computational efficiency, individual rationality, profitability, and truthfulness. The extensive simulations show that the proposed EBRA method has a better performance over 20% than other benchmark mechanisms. © 2019 Association for Computing Machinery.

**Number of references:** 23

**Main heading:** Benchmarking

**Controlled terms:** Artificial intelligence  -  Cloud computing  -  Computational efficiency  -  Profitability  -  Sensor networks

**Uncontrolled terms:** Extensive simulations  -  Good services  -  Incentive mechanism  -  Individual rationality  -  Mobile crowdsensing  -  Reverse auction  -  Service platforms  -  Total profits

**Classification code:** 722.4 Digital Computers and Systems  -  723.4 Artificial Intelligence  -  911.2 Industrial Economics

**Numerical data indexing:** Percentage 2.00e+01%

**DOI:** 10.1145/3371425.3371459

**Funding Details:** Number: 61672022, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;

**Funding text:** Supported in part by the National Natural Science Foundation of China under Grant No. 61672022, and Key Disciplines of Computer Science and Technology of Shanghai Polytechnic University under Grant No. XXKZD1604.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**18. A deep reinforcement learning approach towards computation offloading for mobile edge computing**

**Accession number:** 20201208325238

**Authors:** Wang, Qing (1); Tan, Wenan (1, 2); Qin, Xiaofan (1)

**Author affiliation:** (1) College of Computer Science and Technology, Nanjing University of Aeronautics and Astronautics, Nanjing; 211100, China; (2) School of Computer and Information Engineering, Shanghai Polytechnic University, Shanghai; 201209, China

**Corresponding author:** Tan, Wenan(wtan@foxmail.com)

**Source title:** Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)

**Abbreviated source title:** Lect. Notes Comput. Sci.

**Volume:** 11956 LNCS

**Part number:** 1 of 1

**Issue title:** Human Centered Computing - 5th International Conference, HCC 2019, Revised Selected Papers

**Issue date:** 2019

**Publication year:** 2019

**Pages:** 419-430

**Language:** English

**ISSN:** 03029743

**E-ISSN:** 16113349

**ISBN-13:** 9783030374280

**Document type:** Conference article (CA)

**Conference name:** 5th International Conference on Human Centered Computing, HCC 2019

**Conference date:** August 5, 2019 - August 7, 2019

**Conference location:** aak, Serbia

**Conference code:** 238089

**Publisher:** Springer

**Abstract:** In order to improve the quality of service for users and reduce the energy consumption of the cloud computing environment, Mobile Edge Computing (MEC) is a promising paradigm by providing computing resources which is close to the end device in physical distance. Nevertheless, the computation offloading policy to satisfy the requirements of the service provider and consumer at the same time within a MEC system still remains challenging. In this paper, we propose an offloading decision policy with three-level structure for MEC system different from the traditional two-level architecture to formulate the offloading decision optimization problem by minimizing the total cost of energy consumption and delay time. Because the traditional optimization methods could not solve this dynamic system problem efficiently, Reinforcement Learning (RL) has been used in complex control systems in recent years. We design a deep reinforcement learning (DRL) approach to minimize the total cost by applying deep Q-learning algorithm to address the issues of too large system state dimension. The simulation results show that the proposed algorithm has nearly optimal performance than traditional methods. © Springer Nature Switzerland AG 2019.

**Number of references:** 21

**Main heading:** Deep learning

**Controlled terms:** Edge computing  -  Energy policy  -  Energy utilization  -  Green computing  -  Learning algorithms  -  Learning systems  -  Man machine systems  -  Quality of service  -  Reinforcement learning

**Uncontrolled terms:** Cloud computing environments  -  Complex control systems  -  Computation offloading  -  Cost minimization  -  Optimization problems  -  Q-learning  -  Q-learning algorithms  -  Reinforcement learning approach

**Classification code:** 525.3 Energy Utilization  -  525.6 Energy Policy  -  723.4 Artificial Intelligence

**DOI:** 10.1007/978-3-030-37429-7\_42

**Funding Details:** Number: 61672022, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;

**Funding text:** Acknowledgments. The paper is supported in part by the National Natural Science Foundation of China under Grant No. 61672022, and Key Disciplines of Computer Science and Technology of Shanghai Polytechnic University under Grant No. XXKZD1604.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**19. An Approach for Item Recommendation Using Deep Neural Network Combined with the Bayesian Personalized Ranking**

**Accession number:** 20200107962812

**Authors:** Bi, Zhongqin (1); Zhou, Siming (1); Yang, Xiaoxian (2, 3); Zhou, Ping (1); Wu, Jiale (1)

**Author affiliation:** (1) School of Computer Science and Technology, ShangHai University of Electric Power, Shanghai, China; (2) School of Computer and Information Engineering, Shanghai Polytechnic University, Shanghai, China; (3) Shanghai Shang Da Hai Run Information System Co., Ltd., Shanghai, China

**Corresponding author:** Yang, Xiaoxian(xxyang@sspu.edu.cn)

**Source title:** Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, LNICST

**Abbreviated source title:** Lect. Notes Inst. Comput. Sci. Soc. Informatics Telecommun. Eng.

**Volume:** 292

**Part number:** 1 of 1

**Issue title:** Collaborative Computing: Networking, Applications and Worksharing - 15th EAI International Conference, CollaborateCom 2019, Proceedings

**Issue date:** 2019

**Publication year:** 2019

**Pages:** 151-165

**Language:** English

**ISSN:** 18678211

**ISBN-13:** 9783030301453

**Document type:** Conference article (CA)

**Conference name:** 15th EAI International Conference on Collaborative Computing: Networking, Applications and Worksharing, CollaborateCom 2019

**Conference date:** August 19, 2019 - August 22, 2019

**Conference location:** London, United kingdom

**Conference code:** 230319

**Publisher:** Springer

**Abstract:** This paper proposes a deep neural network model (SDAE-BPR) based on Stack Denoising Auto-Encoder and Bayesian Personalized Ranking for the problem of accurate product recommendation. First, we use the Stack Denoising Auto-Encoder (SDAE) as the input of the item’s rating data and obtain the hidden features after encoding. Second, the Bayesian personalized Ranking (BPR) method is used to learn the hidden feature vector of the corresponding item. This model can avoid the influence of the sparseness of the matrix. Therefore, this model achieves the effect of more accurate recommendations of items. Third, to reduce the cost of model training, a unique pre-training and fine-tuning strategy is proposed in the deep neural network. Finally, based on the Movielens 20M dataset, the results of the SDAE-BPR, a traditional item-based collaborative filtering model and a user-based collaborative filtering model are compared. It is shown that the SDAE-BPR has higher accuracy. This method improves the accuracy of parameter estimation and the efficiency of model training. © 2019, ICST Institute for Computer Sciences, Social Informatics and Telecommunications Engineering.

**Number of references:** 34

**Main heading:** Deep neural networks

**Controlled terms:** Collaborative filtering  -  Deep learning  -  Matrix algebra  -  Signal encoding

**Uncontrolled terms:** Accuracy of parameters  -  Auto encoders  -  Bayesian  -  Feature vectors  -  Item-based collaborative filtering  -  Neural network model  -  Product recommendation  -  Recommendation

**Classification code:** 716.1 Information Theory and Signal Processing  -  903.1 Information Sources and Analysis  -  921.1 Algebra

**DOI:** 10.1007/978-3-030-30146-0\_11

**Funding Details:** Number: EGD18XQD01, Acronym: -, Sponsor: -;

**Funding text:** Acknowledgments. This paper is supported by the Youth Foundation of Shanghai Polytechnic University under Grant No. EGD18XQD01; the CERNET Innovation Project No. NGII2017 0513.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**20. Effect of H2SO4 Solution Treatment on Adhesion, Charge Transfer, and Catalytic Performance of Screen-Printed PEDOT:PSS**

**Accession number:** 20203809191313

**Authors:** Xu, Di (1); Shen, Hujiang (1); Wang, Wei (1); Xie, Junjie (1); Zhang, Tao (1); Yuan, Huihui (1); Li, Yuyu (1, 2); Chen, Xinyu (1); He, Yunlong (1); Zhang, Yumei (1)

**Author affiliation:** (1) CAS Key Laboratory of Materials for Energy Conversion, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai; 201899, China; (2) School of Environmental and Materials Engineering, Shanghai Polytechnic University, Shanghai; 201209, China

**Corresponding author:** Shen, Hujiang(shenhujiang@mail.sic.ac.cn)

**Source title:** ChemPhysChem

**Abbreviated source title:** ChemPhysChem

**Volume:** 20

**Issue:** 3

**Issue date:** February 4, 2019

**Publication year:** 2019

**Pages:** 374-382

**Language:** English

**ISSN:** 14394235

**E-ISSN:** 14397641

**CODEN:** CPCHFT

**Document type:** Journal article (JA)

**Publisher:** Wiley-VCH Verlag

**Abstract:** Post-treatment was performed for poly(3,4-ethylenedioxythiophene):poly(styrenesulfonate) (PEDOT:PSS) films screen-printed on fluorine-doped tin oxide (FTO) substrates, to improve their charge transfer efficiency. Different H2SO4 solutions, including concentrated H2SO4 and H2SO4 diluted with H2O or dimethyl sulfoxide (DMSO), were adopted during the post-treatment. The adhesion of the as-treated films was evaluated by adhesive tape peeling tests, the surface morphology and vertical charge transfer from the films to the substrates were investigated by current-sensing atomic force microscopy, and the catalytic activities toward I3− reduction of PEDOT:PSS films were characterized by electrochemical measurements. It is discovered that selecting proper H2SO4 solutions is crucial to improve the charge transfer efficiency and catalytic performance while maintaining reliable adhesion of the film on the substrates, with H2SO4/DMSO performing best as the solution for post-treatment. A mechanistic explanationis proposed based on different interactions among solution, PEDOT:PSS, and the substrate for various post-treatment solutions. © 2019 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

**Number of references:** 62

**DOI:** 10.1002/cphc.201801133

**Funding Details:** Number: 2014AA052002, Acronym: -, Sponsor: -; Number: 15DZ2281200, Acronym: STCSM, Sponsor: Science and Technology Commission of Shanghai Municipality;

**Funding text:** The authors gratefully acknowledge financial support of this study from the National High Technology Research and Development Program of China (863 Program) (No. 2014AA052002), Science and Technology Service Network Initiative (No. KFJ-SW-STS-152), and the Science and Technology Commission of Shanghai Municipality (No. 15DZ2281200).

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**21. Denoising in spatial particle tomography on multi-layer holography reconstruction by deep learning**

**Accession number:** 20200107978053

**Authors:** Li, Jiaxing (1); Wu, Xiaoyan (2); Yan, Ketao (1); Yu, Yingjie (1)

**Author affiliation:** (1) Lab of Applied Optics and Metrology, Department of Precision Mechanical Engineering, Shanghai University, Shanghai; 200444, China; (2) Institute of Intelligent Manufacturing and Control Engineering, College of Engineering, Shanghai Polytechnic University, Shanghai; 201209, China

**Source title:** Proceedings of SPIE - The International Society for Optical Engineering

**Abbreviated source title:** Proc SPIE Int Soc Opt Eng

**Volume:** 11205

**Part number:** 1 of 1

**Issue title:** Seventh International Conference on Optical and Photonic Engineering, icOPEN 2019

**Issue date:** 2019

**Publication year:** 2019

**Article number:** 112051B

**Language:** English

**ISSN:** 0277786X

**E-ISSN:** 1996756X

**CODEN:** PSISDG

**ISBN-13:** 9781510631595

**Document type:** Conference article (CA)

**Conference name:** 7th International Conference on Optical and Photonic Engineering, icOPEN 2019

**Conference date:** July 16, 2019 - July 20, 2019

**Conference location:** Phuket, Thailand

**Conference code:** 155892

**Sponsor:** AMETEK; BMF Precision Technology, Inc.; dOptron; Orbbec 3D; The International Commission for Optics

**Publisher:** SPIE

**Abstract:** Spatial particle distribution can be recorded by holography technology and can be constructed from multi-layer hologram. Due to the influence of holographic recording and reconstruction process, each tomography of multi-layer reconstruction from holography also contains noise in addition to containing spatial particle distribution information. How to denoise each tomography is a key problem. The existing methods either have a long operation time or the noise reduction effect is not obvious. In order to solve the above problems, we proposed a denoising method based on deep learning in this paper. A deep neural network is built to train and test with simulated spatial particle tomography on multi-layer holography reconstruction. According to the simulation results, the method proposed in this paper is effective in denoising the reconstruction results of spatial particles. The proposed method has the advantages of rapidity and high efficiency. © 2019 SPIE.

**Number of references:** 14

**Main heading:** Image reconstruction

**Controlled terms:** Deep learning  -  Deep neural networks  -  Holograms  -  Multilayer neural networks  -  Noise abatement  -  Tomography

**Uncontrolled terms:** De-noising  -  Denoising methods  -  High-efficiency  -  Holographic recordings  -  Long operations  -  Noise reduction effect  -  Particle distributions  -  Reconstruction process

**Classification code:** 743 Holography  -  746 Imaging Techniques  -  751.4 Acoustic Noise

**DOI:** 10.1117/12.2541651

**Funding Details:** Number: 51775326, Acronym: NSFC, Sponsor: National Natural Science Foundation of China; Number: -, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;

**Funding text:** The authors gratefully acknowledge the support of the National Natural Science Foundation of China (NSFC) (Project No. 51775326).

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**22. Security Anlysis of Certificateless Aggregate Signature Scheme in VANETs**

**Accession number:** 20200708158668

**Authors:** Hu, Xiaoming (1); Tan, Wenan (1); Yu, Chengcheng (1); Ma, Chuang (1); Xu, Huajie (2, 3)

**Author affiliation:** (1) College of Computer and Information Engineering, Shanghai Polytechnic University, Shanghai, China; (2) School of Computer and Electronic Information, Guangxi University, Nanning; 530004, China; (3) Guangxi Key Laboratory of Multimedia Communications and Network Technology, Guangxi University, Nanning; 530004, China

**Corresponding author:** Hu, Xiaoming

**Source title:** Proceedings - 2019 12th International Congress on Image and Signal Processing, BioMedical Engineering and Informatics, CISP-BMEI 2019

**Abbreviated source title:** Proc. - Int. Congr. Image Signal Process., BioMed. Eng. Inf., CISP-BMEI

**Part number:** 1 of 1

**Issue title:** Proceedings - 2019 12th International Congress on Image and Signal Processing, BioMedical Engineering and Informatics, CISP-BMEI 2019

**Issue date:** October 2019

**Publication year:** 2019

**Article number:** 8965974

**Language:** English

**ISBN-13:** 9781728148526

**Document type:** Conference article (CA)

**Conference name:** 12th International Congress on Image and Signal Processing, BioMedical Engineering and Informatics, CISP-BMEI 2019

**Conference date:** October 19, 2019 - October 21, 2019

**Conference location:** Huaqiao, China

**Conference code:** 157086

**Publisher:** Institute of Electrical and Electronics Engineers Inc.

**Abstract:** Certificateless aggregate signature (CLASS) scheme which combines on certificateless signature and aggregation signature solves the identity-based (ID) public key infrastructure (PKI)’s key escrow problem, the PK problem of traditional PKI. So, CLASS schemes can be applied in many fields to solve the privacy problem and security problem, for example in the information network and system of medicine and biology. Also there are many CLASS schemes to be proposed for these fields. In this manuscript, we analyze the CLASS scheme for VANETs proposed in 2018 which is more efficient than other similar schemes. We find which the CLASS scheme cannot satisfy the security the following two properties, namely unforgeability and traceability as they claimed. That is to say that the attacker may forge a correct signature and it may pass the signature verification but the attacker unknows the secret key. So, the CLASS scheme is not suitable for applying in any system. As an improving, after analyzing original scheme, it is found that the key problems for being insecure and give one simple method to solve the existed drawbacks. © 2019 IEEE.

**Number of references:** 43

**Main heading:** Authentication

**Controlled terms:** Aggregates  -  Biomedical engineering  -  Image processing  -  Information services  -  Medicine  -  Public key cryptography  -  Security of data  -  Vehicular ad hoc networks

**Uncontrolled terms:** Aggregate signature  -  Anlysis  -  Certificateless signature  -  Certificateless signature schemes  -  Information networks  -  Public-key infrastructure  -  Signature verification  -  VANETs

**Classification code:** 406 Highway Engineering  -  461.1 Biomedical Engineering  -  461.6 Medicine and Pharmacology  -  723 Computer Software, Data Handling and Applications  -  723.2 Data Processing and Image Processing  -  903.4 Information Services

**DOI:** 10.1109/CISP-BMEI48845.2019.8965974

**Funding Details:** Number: 14ZZ167, Acronym: -, Sponsor: Shanghai Municipal Education Commission; Number: 2017AB15008, Acronym: -, Sponsor: Science and Technology Major Project of Guangxi; Number: B50YC170000-2, Acronym: -, Sponsor: -; Number: 61103213, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;

**Funding text:** ACKNOWLEDGMENT This work is supported by the Innovation Program of Shanghai Municipal Education Commission (No.14ZZ167), the National Natural Science Foundation of China (No.61103213, 61672022), the Key Disciplines of Computer Science and Technology of Shanghai Polytechnic University (No.XXKZD1604), the Application Oriented Undergraduate Professional Construction Project of Shanghai (No. B50YC170000-2) and the Guangxi Science and Technology Plan Project(No.2017AB15008).

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**23. Effect of normal strain and external electric field on electronic properties of the GeC bilayer: A first-principles study    (*Open Access*)**

**Accession number:** 20200107980053

**Authors:** Min, Luo (1); Yu, Xu Yu (2); Hao, Shen Yu (3)

**Author affiliation:** (1) Department of Physics, Shanghai Polytechnic University, Shanghai; 201209, China; (2) Department of Electronic Engineering, Shang Hai Jian Qiao University, Shanghai; 201306, China; (3) Key Laboratory of Polar Materials and Devices, East China Normal University, Shanghai; 200241, China

**Source title:** AIP Advances

**Abbreviated source title:** AIP Adv.

**Volume:** 9

**Issue:** 12

**Issue date:** December 1, 2019

**Publication year:** 2019

**Article number:** 125324

**Language:** English

**E-ISSN:** 21583226

**Document type:** Journal article (JA)

**Publisher:** American Institute of Physics Inc.

**Abstract:** The electronic properties of the GeC bilayer with different stacking patterns are investigated using density functional theory. A different behavior shows up when applying normal strain and electric field (E-field). Under normal strain, the bandgap becomes very elastic and presents an indirect-to-direct bandgap transition. By applying the E-field, the intrinsic bandgap swiftly reduces to zero. The major modulation of the bandgap is mainly due to the migration of Ge-p orbitals in the conduction band. Our results reveal the flexible electronic properties of the GeC bilayer, which would provide a theoretical reference for the development of the GeC bilayer. © 2019 Author(s).

**Number of references:** 42

**Main heading:** Germanium compounds

**Controlled terms:** Density functional theory  -  Electric fields  -  Electronic properties  -  Energy gap  -  Strain

**Uncontrolled terms:** Bandgap transition  -  Bi-layer  -  E-field  -  External electric field  -  First-principles study  -  Normal strain  -  Orbitals  -  Stacking patterns

**Classification code:** 701.1 Electricity: Basic Concepts and Phenomena  -  922.1 Probability Theory  -  951 Materials Science

**DOI:** 10.1063/1.5109686

**Funding Details:** Number: EGD18XQD29, Acronym: -, Sponsor: -; Number: XXKZD1605, Acronym: -, Sponsor: -; Number: 19ZR1419800, Acronym: -, Sponsor: Natural Science Foundation of Shanghai;

**Funding text:** The work was supported by the Discipline Project of Shanghai Polytechnic University (Grant No. XXKZD1605), the Foundation of Shanghai Polytechnic University (Grant No. EGD18XQD29), and the Natural Science Foundation of Shanghai (Grant No. 19ZR1419800). Our work is also supported by the Research Center of Opto-Electrical Sensing, the Research Center of Resource Recycling Science and Engineering, Shanghai Polytechnic University, and the Gaoyuan Discipline of Shanghai-Environmental Science and Engineering (Resource Recycling Science and Engineering).

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**24. Effects of solar radio flux on payload pointing variation for the Earth observation spacecraft**

**Accession number:** 20200308056869

**Authors:** Jiang, Hu (1, 2, 3); Deng, Lei (1, 2, 3); Yu, Jinpei (1, 2, 3); Cai, Zhiming (1, 2, 3); Jiang, Yuesheng (4)

**Author affiliation:** (1) Shanghai Engineering Center for Microsatellites, 99, Haike Rd., Shanghai; 201203, China; (2) Innovation Academy for Microsatellites, Chinese Academy of Sciences, 99, Haike Rd., Shanghai; 201203, China; (3) Key Lab of Microsatellites, Chinese Academy of Sciences, 99, Haike Rd., Shanghai; 201203, China; (4) College of Engineering, Shanghai Polytechnic University, 2360, Jinhai Rd., Shanghai; 201209, China

**Source title:** Proceedings of SPIE - The International Society for Optical Engineering

**Abbreviated source title:** Proc SPIE Int Soc Opt Eng

**Volume:** 11338

**Part number:** 1 of 1

**Issue title:** AOPC 2019: Optical Sensing and Imaging Technology

**Issue date:** 2019

**Publication year:** 2019

**Article number:** 1133802

**Language:** English

**ISSN:** 0277786X

**E-ISSN:** 1996756X

**CODEN:** PSISDG

**ISBN-13:** 9781510634480

**Document type:** Conference article (CA)

**Conference name:** Applied Optics and Photonics China 2019: Optical Sensing and Imaging Technology, AOPC 2019

**Conference date:** July 7, 2019 - July 9, 2019

**Conference location:** Beijing, China

**Conference code:** 156385

**Sponsor:** Chinese Society for Optical Engineering; The Society of Photo-Optical Instrumentation Engineers (SPIE)

**Publisher:** SPIE

**Abstract:** For most Earth observation spacecrafts (EOS), repeating sun-synchronous orbit is a preferred working orbit for the Earth observation spacecraft. Repeating ground trace can provide an ideal observation geometry for space-crafts devoted to Earth observation missions. Sun-synchronous orbit can provide an ideal supply of solar power for the space-crafts. Payloads for EOS usually need demanding pointing stability. One of the main factors which may lead to the variation of payload pointing is the solar radio flux. In different year, the solar radio flux varies. This paper focuses on the characteristics of payload pointing stability due to the variation of the solar radio flux. As historic dataset, solar radio flux shows periodic change of 11 years. In 11 years, solar radio flux experiences the maximal and the minimal solar flux units (sfu). In the case of the payload beam boresight, the simulation results indicate that during the year of severe solar activity with 230sfu, 4 months of orbit drifting without any orbit maneuver will result in payload pointing change less than ±2 deg, and that during the year of severe solar activity with 230 sfu, 2 months of orbit drifting without any orbit maneuver will result in payload pointing change less than ±0.5 deg. And the simulations also indicate that during the year of average solar activity with 150sfu, 4 months of orbit drifting without any orbit maneuver will result in payload pointing change less than ±0.5 deg, and that during the year of average solar activity with 150sfu, 2 months of orbit drifting without any orbit maneuver will result in payload pointing change less than ±0.1 deg; In the case of the payload beam edge, the simulation results indicate that during the year of severe solar activity with 230sfu, 4 months of orbit drifting without any orbit maneuver will result in payload pointing change less than ±5 deg, and that during the year of severe solar activity with 230 sfu, 2 months of orbit drifting without any orbit maneuver will result in payload pointing change less than ± deg. And the simulations also indicate that during the year of average solar activity with 150sfu, 4 months of orbit drifting without any orbit maneuver will result in payload pointing change less than ±2 deg, and that during the year of average solar activity with 150sfu, 2 months of orbit drifting without any orbit maneuver will result in payload pointing change less than ±0.5 deg; The simulations provide an effective constraint of orbit maneuver scenario planning, and further boost the feasibility of space-crafts engineering. © 2019 copyright SPIE. Downloading of the abstract is permitted for personal use only.

**Number of references:** 3

**Main heading:** Orbits

**Controlled terms:** Earth (planet)  -  Electromagnetic pumps  -  Imaging techniques  -  Observatories  -  Solar energy  -  Solar radiation  -  Spacecraft  -  Wire pointing

**Uncontrolled terms:** Earth observations  -  Effective constraints  -  Payload  -  Periodic changes  -  Pointing stability  -  Scenario Planning  -  Solar radio flux  -  Sun synchronous orbits

**Classification code:** 535.2.2 Metal Forming Practice  -  655.1 Spacecraft, General  -  657.1 Solar Energy and Phenomena  -  701 Electricity and Magnetism  -  746 Imaging Techniques

**Numerical data indexing:** Age 1.10e+01yr, Age 1.67e-01yr, Age 3.33e-01yr

**DOI:** 10.1117/12.2538251

**Funding Details:** Number: 2018YFB0504301, Acronym: -, Sponsor: National Basic Research Program of China (973 Program);

**Funding text:** This research is funded by the National Key Research and Development Program of China, No.2018YFB0504301.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**25. A Hybrid Clock Logic System for CPS**

**Accession number:** 20203909249636

**Authors:** Wang, Peifen (1); Chen, Yixiang (2); Wu, Hengyang (3)

**Author affiliation:** (1) East China Normal University, School of Software Engineering, Shanghai, China; (2) East China Normal University, Moe Enginering Research Center for Software, Hardware Co-design Technology and Application, Shanghai, China; (3) Shanghai Polytechnic University, School of Computer and Information Engineering, Shanghai, China

**Source title:** Proceedings of IEEE 14th International Conference on Intelligent Systems and Knowledge Engineering, ISKE 2019

**Abbreviated source title:** Proc. IEEE Int. Conf. Intell. Syst. Knowl. Eng., ISKE

**Part number:** 1 of 1

**Issue title:** Proceedings of IEEE 14th International Conference on Intelligent Systems and Knowledge Engineering, ISKE 2019

**Issue date:** November 2019

**Publication year:** 2019

**Pages:** 675-682

**Article number:** 9170360

**Language:** English

**ISBN-13:** 9781728123486

**Document type:** Conference article (CA)

**Conference name:** 14th IEEE International Conference on Intelligent Systems and Knowledge Engineering, ISKE 2019

**Conference date:** November 14, 2019 - November 16, 2019

**Conference location:** Dalian, China

**Conference code:** 162534

**Sponsor:** Dalian Computer Society; et al.; IEEE Beijing Section; National Association of Non-Classic Logic and Computation, Chinese Society of Logic; Ulster University; University of Technology Sydney

**Publisher:** Institute of Electrical and Electronics Engineers Inc., United States

**Abstract:** Cyber-Physical System (CPS) is a typical intelligent system composed of agents. It has an important feature of spatial temporal constraints. To describe the constraints on agents, Chen proposed the spatial-temporal consistency language (STeC) in 2012 and the hybrid clock system in 2014. In this paper we will set up the hybrid clock logic systems (HCL) to specify the spatial temporal constraint property of agents in CPS. After giving the syntax and semantics of HCL, we consider the satisfaction relationship between a STeC design and HCL specification of a CPS agent. Some case studies show this satisfaction relationship is reasonable. We also introduce a model-checking algorithm for HCL. © 2019 IEEE.

**Number of references:** 17

**Main heading:** Computer circuits

**Controlled terms:** Clocks  -  Embedded systems  -  Intelligent systems  -  Model checking  -  Semantics

**Uncontrolled terms:** Case-studies  -  Clock systems  -  Cyber-physical systems (CPS)  -  Important features  -  Logic systems  -  Model checking algorithm  -  Spatial temporals  -  Spatial-temporal consistency

**Classification code:** 721.1 Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory  -  721.3 Computer Circuits  -  723.4 Artificial Intelligence  -  943.3 Special Purpose Instruments

**DOI:** 10.1109/ISKE47853.2019.9170360

**Funding Details:** Number: 2018YFB2101301, Acronym: NKRDPC, Sponsor: National Key Research and Development Program of China; Number: 2018YFB2101301, Acronym: NKRDPC, Sponsor: National Key Research and Development Program of China;

**Funding text:** \* Hengyang Wu: The Corresponding author. This work is supported by National Key Research and Development Program of China (No.2018YFB2101301).ACKNOWLEDGMENT This work is supported by National Key Research and Development Program of China (No.2018YFB2101301). Appreciate all the reviewers for their precious suggestions.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village

**26. Overlapping Community Detection in Bipartite Networks using a Micro-bipartite Network Model: Bi-EgoNet**

**Accession number:** 20200207988919

**Authors:** Chang, Furong (1, 2); Zhang, Bofeng (1); Zhao, Yue (1); Wu, Songxian (3); Zou, Guobing (1); Niu, Sen (4)

**Author affiliation:** (1) School of Computer Engineering and Science, Shanghai University, Shanghai, China; (2) School of Computer Science and Technology, Kashi University, Xinjiang, China; (3) School of Mathematics and Statistics, Kashi University, Xinjiang, China; (4) School of Computer and Information Engineering, Shanghai Polytechnic University, Shanghai, China

**Corresponding author:** Zhang, Bofeng(bfzhang@shu.edu.cn)

**Source title:** Journal of Intelligent and Fuzzy Systems

**Abbreviated source title:** J. Intelligent Fuzzy Syst.

**Volume:** 37

**Issue:** 6

**Issue date:** 2019

**Publication year:** 2019

**Pages:** 7965-7976

**Language:** English

**ISSN:** 10641246

**E-ISSN:** 18758967

**Document type:** Journal article (JA)

**Publisher:** IOS Press, Nieuwe Hemweg 6B, Amsterdam, 1013 BG, Netherlands

**Abstract:** A bipartite network is a special kind of complex network that consists of two different types of nodes with edges existing only between the different node types. There are numerous real-world examples of bipartite networks, such as scientific collaboration networks and film-actor networks, among many others. Detecting the community structure of bipartite networks not only contributes to a deeper understanding of their hidden structure, but also lays the foundation for research into the personalized recommendation technology. Most existing algorithms, however, only focus on the detection of non-overlapping community structures while ignoring overlapping community structures. In this study, we developed a micro-bipartite network model, Bi-EgoNet along with an algorithm called Overlapping Community Detection using Bi-EgoNet (OCDBEN). This algorithm first extracts the sub-bi-community set from each Bi-EgoNet using similarity within the bipartite network and then constructs a global community structure by merging the sub-bi-communities using the double-merger strategy. We evaluated the OCDBEN algorithm with several synthetic and real-world bipartite networks and compared it with existing state-of-the-art algorithms. The experimental results demonstrated that OCDBEN outperformed existing algorithms in both accuracy and effectiveness. © 2019 - IOS Press and the authors. All rights reserved.

**Number of references:** 43

**Main heading:** Complex networks

**Controlled terms:** Merging  -  Population dynamics

**Uncontrolled terms:** Bipartite network  -  Community structures  -  Hidden structures  -  Overlapping communities  -  Overlapping community detections  -  Personalized recommendation  -  Scientific collaboration networks  -  State-of-the-art algorithms

**Classification code:** 722 Computer Systems and Equipment  -  971 Social Sciences

**DOI:** 10.3233/JIFS-190320

**Funding Details:** Number: 2016D01B010, Acronym: -, Sponsor: Natural Science Foundation of Xinjiang Province;

**Funding text:** This work was partially supported by the Xinjiang Natural Science Foundation (No. 2016D01B010). We thank LetPub (www.letPub.com) for its linguistic assistance during the preparation of this manuscript.

**Compendex references:** YES

**Database:** Compendex

Compilation and indexing terms, Copyright 2020 Elsevier Inc.

**Data Provider:** Engineering Village