

Patent Selections:

The patents annotated in this section have been selected from various patent databases. These recent patents are relevant to the articles published in this journal issue, categorized by different computation methods, bioinformatics, medical informatics, computer graphics, artificial intelligence, cybernetics, hardware architectures, software, theory and methods involved and related to computer science.

BACKGROUND MODELLING & FOREGROUND DETECTION & KERNEL DENSITY ESTIMATION & MIXTURE OF GAUSSIANS

1. Scalet, F., Henry, S., Watters, C., Dulock, S. Displaying likelihood values for use in settlement. **US7991630 (2011).**
2. Minter, T.C. Adaptive Bayes pattern recognition. **US7983490 (2011).**
3. Minter, T.C. Priori probability and probability of error estimation for adaptive bayes pattern recognition. **US7979363 (2011).**
4. Minter, T.C. Adaptive bayes feature extraction. **US7961955 (2011).**
5. Haering, N., Rasheed, Z., Hassan-S.K., Hakeem, A., Javed, O., Cao, X.C., Liu, H., Yu, L., Madden, D.G., Chosak, A.J., Taylor, G., Gupta, H., Lipton, A.J. Automatic camera calibration and geo-registration using objects that provide positional information. **US7949150 (2011).**
6. Williams, C.R. Method and apparatus for estimating the velocity vector of multiple vehicles on non-level and curved roads using a single camera. **US7920959 (2011).**
7. Yang, T., Chen, F., Kimber, D.G. System and method for feature level foreground segmentation. **US7916944 (2011).**
8. De Prisco, B., Iscoe, I., Jiang, Y., Mausser, H. Systems and methods for compound risk factor sampling with integrated market and credit risk. **US7908197 (2011).**
9. Navratil, J., Ramaswamy, G.N. Optimization of detection systems using a detection error tradeoff analysis criterion. **US7945444 (2011).**
10. Smaragdis, P., Shashanka, M. System and method for recognizing speech securely using a secure multi-party computation protocol. **US7937270 (2011).**
11. Ozonat, M.K. Segment-based technique and system for detecting performance anomalies and changes for a computer-based service. **US7930593 (2011).**
12. Chang, F.L., Hsu, W.H., Chueh, M.-F. Method and system for foreground detection using multi-modality fusion graph cut. **US20100208987 (2010).**
13. Li, C. Tong, X.F. Human pose estimation in visual computing. **US20100329560 (2010).**
14. Thaniyath, S.A., Kumar, T.N.S., Narsimham, K.L.K.R. Elegant solutions for fingerprint image enhancement. **US2010015832 (2010).**
15. Sharma, R., Jung, N. Method and system for immersing face images into a video sequence. **US7826644 (2010).**
16. Porikli, F.M., Ivanov, Y.A. Method for detecting objects left-behind in a scene. **US7813528 (2010).**
17. Kan, L., Yin, P. Copy selection method based on kernel density estimation. **CN101800771 (2010).**
18. Hu, Y., Lou, J.-G., Li, J. Distributed kernel density estimation. **US7743086 (2010).**
19. Snoussi, H. System and method for locating a target with a network of cameras. **WO2010119232 (2010).**
20. Achlioptas, D. System and method adapted to facilitate dimensional transform. **US7836115 (2010).**
21. Zhang, C., He, L.-w., Rui, Y. Background blurring for video conferencing. **US7783075 (2010).**
22. Harris, C.C. Methods and devices relating to estimating classifier performance. **US7698071 (2010).**

WIRELESS MULTIMEDIA NETWORKS & RESOURCE MANAGEMENT & QUALITY OF EXPERIENCE

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2. Ferren, B., Hillis, W.D., Myhrvold, N.P., Tegreene, C.T. Wood, JR., L.L. Multiprocessor resource optimization. **US20110087862 (2011).**
3. Li, H., Li, S., Wang, Y.-K., Chen, Y., Yu, H.H. System and Method for Differentiated Services in Adaptive Streaming. **US20110179186 (2011).**
4. Liu, Y., Wang, Q. Method, System, and Network Apparatus for Evaluating Quality of Experience. **US20110007648 (2011).**
5. Liu Y., Wang Q. A method and system for evaluating user s quality of experience and network device. **EP2244426 (2011).**
6. Tie, M., Cao, J., Pang, L., Lai, X., Huang, Z. Secure transmission method for broadband wireless multimedia network broadcasting communication. **US20100316221 (2010).**
7. Pang, L., Cao, J., Tian, H., Huang, Z., Zhang, B. Network access authentication and authorization method and an authorization key updating method. **US20100009656 (2010).**

8. TIE, M., CAO, J., PANG, L., LAI, X., HUANG, Z. A Secure transmission method for broadband wireless multimedia network broadcasting communication. **EP2244413A1 (2010).**
9. Beaujean, C., Roux, P. Admission control for a heterogeneous communication system. **US7773513 (2010).**
10. Hayashi, M., Miya, K., Kato, O. Base station apparatus, mobile station apparatus, transmission method and receiving method in a CDMA/TDD mobile communication system. **US7751445 (2010).**
11. Pu, X. Apparatus, system, and method for generating a resource utilization description for a parallel data processing system. **US7660884 (2010).**
12. Weiqiang, C., Hongyan, L., Jiandong, L., MIN S, Wenchao, W., Juan, W. Cognitive-based heterogeneous network resource management system and management method thereof. **CN101808366A (2010).**
13. Barbaresi, A., Barberis, S., Farotto, R., Tosalli, M. Apparatus and method for implementing configurable resource management policies. **US20100029290 (2010).**
14. Ferren, B., Hillis, W. D., Myhrvold, N.P., Tegreene, C.T., Wood, Jr., L.L. Hardware resource having an optimistic policy and a pessimistic policy. **US7984278 (2011).**
15. Luting L., Hongbo Z., Xiaorong Z. Fourth generation communication system network architecture design and wireless resource management method. **CN101848465 (2010).**
16. Park Y.K., Lee J.W. Resource allocate method of each terminal apparatus using resource management system and resource management sever apparatus. **KR2010066346 (2010).**
17. Lin Y. Resource control method and device under service and bearing separating structure. **EP2151956 (2010).**
18. Lin, Y. Resource control method and device under service and bearing separating structure. **EP2151956 (2010).**
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20. Ferren, B., Hillis, W.D., Myhrvold, N.P., Tegreene, C.T., Wood, Jr., Lowell L. Multiprocessor resource optimization. **US7774558 (2010).**
21. Bozak, E., Gebhart, A. Grid browser component. **US7703029 (2010).**
22. Bozak, E., Gebhart, A. Grid manageable application process management scheme. **US7673054 (2010).**
23. Ferren, B., Hillis, W.D., Myhrvold, N.P. Tegreene, C.T., Wood, Jr., L.L. Instruction-associated processor resource optimization. **US7647487 (2010).**
24. Van gassel, J.P., Bouazizi, I., Curcio, I. System and methods for quality of experience reporting. **WO2010000946 (2010).**
25. Ying L., Delei Y. Method, system and equipment for detecting quality of experience of video. **CN101835058 (2010).**
26. Qi W., Ying L., Delei Y., Lixia X., Daoyan, Y. Method, device and system for adjusting multimedia encoding rate. **CN101621351 (2010).**
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28. Luft, S.J., Back, J. Monitoring quality of experience on a per subscriber, per session basis. **US7706291 (2010).**
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30. Blouin, F., Thorpe, L., Rahrer, T., Drwiega, T., Rabipour, R. Enhanced communication bridge. **WO2010115285 (2010).**

WIRELESS SENSOR NETWORKS

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2. Huizenga, C.A. Wireless network control for building facilities. **US7884732 (2011).**
3. Armstrong, B.S.R., Pereira, L.R., Rentel, C.H. Synchronization system and method for wireless communicating nodes. **US7912164 (2011).**
4. Hong, C.S., Mohammad, M.A., Md, A.R., Cho, E.J., Haw, R., Lee, K.H., Park, J.K., Park, J.Y., Kim, J.H. Data transmission method for considering qos and energy consumption in wireless sensor network. **WO2011040659 (2011).**
5. Kim, K.S., Yoon, J.H., Lee, S.W. Head node selection method for clustering in wireless sensor network and wireless sensor network. **US20110128131 (2011).**
6. Baldus, H., Falck, T., Klabunde, K., Sanchez S.D. Safe identification and association of wireless sensors. **US7924150 (2011).**
7. Jin, H.H. Scalable sensor localization for wireless sensor networks. **US7970574 (2011).**
8. Belenki, M. Service-to-device mapping for smart items using a genetic algorithm. **US7890568 (2011).**
9. Jung, E.K.Y., Levien, R.A., Lord, R.W., Malamud, M.A., Rinaldo, Jr., J.D. Mote signal energy aspects. **US7906765 (2011).**
10. Jung, E.K.Y., Tegreene, C.T. Occurrence data detection and storage for generalized sensor networks. **US7941188 (2011).**

11. Ganesh, A. Discreet event operators for event management in a wireless sensor network. **US7664080 (2010).**
12. Jianping, C., Zengwei, Z., Xiaowei, Z. Supermarket shopping guiding and advertising system and control method based on wireless sensor network. **CN101854384 (2010).**
13. Banks, K.R., Ewing, D.B. Wireless networks and methods using multiple valid network identifiers. **US20100074234 (2010).**
14. Levinson, F. Power and communication interface for sensors using a single tethered fiber. **US7859071 (2010).**
15. Mukhopadhyay, S., Dey, S., Panigrahi, D. Apparatus and method for improving reliability of collected sensor data over a network. **US7793188 (2010).**
16. Tegreene, C.T. Mote networks having directional antennas. **US7706842 (2010).**
17. Yinghui, C., Lili H., Chengquan, H., Yv J., Jian Z. Repeater system and method for wireless sensor network. **CN101848469 (2010).**
18. Haiqing, L., Jianfeng, Y. Zigbee wireless sensor network based system and method for monitoring microenvironment of cabinet. **CN101707540 (2010).**
19. Yu, P., Liyan, Q., Xiyuan, P., Qinghua, L., Dawei, P., Shaojun, W. Method for precisely synchronizing wireless sensor network under coal mine. **CN101697502 (2010).**
20. Budampati, R.S., Kolavennu, S.N., Gonia, P.S., Kore, V.S., Narang, S. Redundantly connected wireless sensor networking methods. **US7848223 (2010).**
21. Yoon, C.-J. Energy-efficient network protocol and node device for sensor networks. **US7729285 (2010).**
22. Armstrong, B.S.R., Pereira, L.R., Das, S.R., Rentel, C.H. Packet sniffer node and system including the same to assess wireless communication performance. **US7697495 (2010).**
23. Rittle, L.J., Le Brun, J.B. Wireless sensor node group affiliation method and apparatus. **US7688793 (2010).**
24. Yu, Y., Rittle, L.J. Wireless sensor node executable code request facilitation method and apparatus. **US7676805 (2010).**
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27. Lei, H., Xiongwei, Z. Architecture and realization method for sensor information network. **CN101772201 (2010).**
28. Xiangdong, J., Zhiqiang, L. Remote video monitoring system combining with wireless sensor network. **CN101753993 (2010).**
29. Tegreene, C.T. Mote networks using directional antenna techniques. **US7929914 (2011).**
30. Choy, E.Y.T., Kim, M.J., Kim, J. Method and systems for copying data components between nodes of a wireless sensor network. **US7769848 (2010).**
31. Guogang, D., Bing, L. Wireless sensor network, mobile terminal and interconnection method and system thereof. **CN101834913 (2010).**
32. Cailian, C., Xinping, G., Chengnian, L., Li, S. Method for acquiring data of wireless sensor network based on mobile sink node. **CN101808289 (2010).**
33. Bornhoevd, C., Avanes, A., Ziekow, H.R., Mo, B.S., Wiemann, M.M. Hierarchical, multi-tiered mapping and monitoring architecture for smart items. **US7860968 (2010).**
34. Ewing, D.B., Banks, K.R. Systems and methods for using predefined network addresses in wireless sensor networks. **US20100074145 (2010).**
35. Jung, E.K.Y., Levien, R.A., Lord, R.W., Malamud, M.A., Rinaldo, Jr., J.D. Mote servicing. **US7770071 (2010).**
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BANKRUPTCY PREDICTION & CASE-BASED REASONING & FEATURE NORMALIZATION

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2. Kaiser, M. Supporting user interaction with a computer system. **US7979295 (2011).**
3. Ferrari, A.J., Gourley, D., Johnson, K., Knabe, F.C., Tunkelang, D., Walter, J.S. Hierarchical data-driven navigation system and method for information retrieval. **US7912823 (2011).**
4. Bonissone, P.P., Messmer, R.P., Patterson, A.N., Yang, D., Pavese, M., Subbu, R.V., Aggour, K.S. Process for optimization of insurance underwriting suitable for use by an automated system. **US7899688 (2011).**
5. Bonissone, P.P., Messmer, R.P., Patterson, A.N., Yang, D., Pavese, M., Subbu, R.V., Aggour, K.S. System for optimization of insurance underwriting suitable for use by an automated system. **US7895062 (2011).**
6. Rohlfing, D.M. Fault diagnostics. **US7925608 (2011).**
7. Horvitz, E.J., Hovel, D.O., Jacobs, A.W., Kadie, C.M. Notification platform architecture. **US7975015 (2011).**
8. Castellani, S., Grasso, A., Kaplan, A.N., Roulland, F., Roux, C., Thieret, T.E., Kramer, R., Rockwell, R.M.,

- Gusmano, D.J. Informing troubleshooting sessions with device data. **US7890318 (2011).**
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 12. Nichols, M.S. Runtime program analysis tool for a simulation engine. **US7660778 (2010).**
 13. Gluzman, P.V., Rosen, A.D., Scarlet, B.S., Volpe, A. System and method for filtering rules for manipulating search results in a hierarchical search and navigation system. **US7856434 (2010).**
 14. Bonissone, P.P., Messmer, R.P., Durham, W.M., Yang, D., Pavese, M., Russell, D.M. Process for rule-based insurance underwriting suitable for use by an automated system. **US7844477 (2010).**
 15. Bonissone, P.P., Cheetham, W.E. System for determining a confidence factor for insurance underwriting suitable for use by an automated system. **US7818186 (2010).**
 16. Bonissone, P.P., Messmer, R.P., Subbu, R.V., Yan, W., Chakraborty, A. System and process for multivariate adaptive regression splines classification for insurance underwriting suitable for use by an automated system. **US7813945 (2010).**
 17. Bonissone, P.P., Iyer, N.S. System and process for detecting outliers for insurance underwriting suitable for use by an automated system. **US7801748 (2010).**
 18. Smyth, B., McGinty, L. Dynamic diversity-enhanced similarity retrieval system and method. **US7761454 (2010).**
 19. Senturk, D., Doganaksoy, M., LaComb, C.A., Hoogs, B.K., Neagu, R.E. Methods and systems for anomaly detection in small datasets. **US7729964 (2010).**
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 21. Vadrevu, S., Tseng, B.L. Feature normalization and adaptation to build a universal ranking function. **US20100293175 (2010).**
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 23. Liang, Y., Kobla, V., Bai, X., Zhang, Y., Crnic, L.S., Wilks, S.L., Wolf, W. Unified system and method for animal behavior characterization from top view using video analysis. **US7817824 (2010).**
 24. Lin, S., Crotty, K.M., Vazquez, N. Shape feature extraction and classification. **US7668376 (2010).**
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- MAPPING HONEYCOMB & GRID ARCHITECTURE & HONEYCOMB NETWORKS**
1. Fowler, M. Distributed transaction processing for in memory data grids. **WO2011018646 (2011).**
 2. Fowler, M. Distributed transaction processing. **US20110041006 (2011).**
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 6. Bao, Z., Richards, Jr., P.J. Shaouy, W.P. Query meaning determination through a grid service. **US7921133 (2011).**
 7. Talwar, V., Basu, S., Kumar, R. Remote desktop performance model for assigning resources. **US7870256 (2011).**
 8. Croft, R.J., Low, Anthony E., Mazzaferri, R.J., Pedersen, Bradley J. Methods and systems for executing, by a virtual machine, an application program requested by a client machine. **US7870153 (2011).**
 9. Fowler, M. **Distributed transaction processing and committal by a transaction manager. GB2472620 (2011).**
 10. Tao, W., Xiaodong, Z., Xiangchao, J., Qinying, Z. Method for converging wireless networks at same frequency point and related networks. **CN101646260 (2011).**
 11. Brew, T.W., Bubb, K.N., Lehman, M.J. Honeycomb Extrusion Die Apparatus And Methods. **US20100301515 (2010).**

12. Jingshuang, S., Zhongyang, Z. Improved AIMD congestion control method. **CN101860895 (2010).**
13. Hao, D. Business realizing method, system and personal network gateway. **CN101754089 (2010).**
14. Ju, L. Method, equipment and system for sharing frequency spectrum resource. **CN101635928 (2010).**

15. Bozak, E., Gebhart, A. Grid manageable application process management scheme. **US7673054 (2010).**
16. Zhiqiang, C., Qinxue, W. Honeycomb network pipe bio-carrier. **CN101746881 (2010).**
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