

# Table of Contents

## Preface and Conference Organization

## Chapter 1: Information Technology, Artificial Intelligence, Algorithms and Computation Methods

<b>A Composite Model via Proportional Intensity Function and Additive Hazard Function</b> H.B. Liu, T. Yin and C. Wang	3
<b>A Method of Building Correlation Relationships to Thesauri Based on Improved Mutual Information</b> Y.T. Liu and L. Li	7
<b>A New EWMA Loss Control Chart with Adaptive Control Scheme</b> C.M. Yang, S.F. Yang and J.S. Lin	12
<b>A Research Using Correlation Coefficient to Make Bayesian Classification Data Mining</b> Y.J. Zhang and L.J. Yang	18
<b>Dynamic Impact Analysis of Urbanization Progress and Industrial Structure Change on VAR Model</b> Z.L. Ma and H.Y. Ma	23
<b>Estimation Methods of a Joint Model Based on Proportional Intensity Function and Proportional Hazard Function</b> H.B. Liu, T. Yin and C.J. Rao	27
<b>Financial Time Series Prediction Based on BP Neural Network</b> J. Jia	31
<b>Grey Target Decision Model of Hesitant Three-Parameter Interval Grey Number</b> B.H. Yang	35
<b>IBA-II: Another Item-Based Algorithm of Learning from Examples</b> Y. Lin	41
<b>Incremental Approach for Updating Approximations of Variable Precision Rough Set Based on Dominance Relations</b> Y. Li, J.J. Hou and X.Q. Liu	49
<b>Maintaining Dynamic Information Systems Using Incremental Dominance-Based Rough Set Approach</b> Y. Li, X.Q. Liu and J.J. Hou	53
<b>Minimizing Total Flow Time in a Flow Shop with Blocking Using a Hybrid Variable Neighborhood Search and Simulated Annealing Algorithm</b> Z.P. Xie, C.Y. Zhang, X.Y. Shao and Y. Yin	57
<b>Optimal Algorithmic Trading Strategy with the Price Appreciation Cost</b> R.Z. Yan, P. Li and Y. Zeng	62
<b>Partheno-Genetic Algorithm for the Permutation Flowshop Scheduling Problem with Maximum Waiting Times</b> B.L. Wang, T.K. Li, H.F. Wang and C.T. Shi	66
<b>Research and Application of Enterprise Operating Situation Prediction Based on Decision Tree</b> Y. Qin, S. Yang, W. Wang, X.D. Luo, J.L. Cheng and T.T. Li	70
<b>Research of Digital Resource Integration Based on DC Metadata Storage</b> L. Du and T. Liu	75
<b>Short-Term Gas Load Forecasting Based on Wavelet BP Neural Network Optimized by Genetic Algorithm</b> F. Yu, Z.Q. Wang and X.Z. Xu	79
<b>Study on Asymptotic Properties of a Joint Model</b> H.B. Liu, T. Yin and C.J. Rao	86
<b>Study on the Asymptotic Properties of a Composite Model in Statistical Analysis of Recurrent Event</b> H.B. Liu, T. Yin and C. Wang	90

<b>The Analysis of the Load Rate Influence Factors Based on the Grey Correlation</b> X.j. Wang, J.X. Zhang, Z.G. Zhang and M.Z. Liu	94
<b>The Analysis on Recursive Algorithm Implementation of Preorder-Traversing Binary Tree</b> Y.C. Song and S.L. Jin	99
<b>The College Enrollment Plan: An Application of Fuzzy Clustering Analysis Method</b> M. Gui and Y.L. Huang	103
<b>The Design of Data Input Module in Virtual Welding System</b> P.J. Sun, B. Huang and X.M. Wang	107
<b>A Hybrid Simulate Annealing Algorithm Based on Aircraft Emergency Dispatching System</b> J. Fang, P. Li and H.S. Xia	111
<b>A Variable Step-Size BLMS Adaptive Jamming Cancellation Algorithm Based on FFT</b> C.Q. Feng and B.Q. Lu	116
<b>Adaptive Extended Kalman Filter for Nonlinear System with Noise Compensating Technology</b> Z.S. Ma and W.B. Fan	121
<b>An Improvement of Apriori Algorithm in Medical Data Mining</b> Y.H. Zhou and P. Tian	125
<b>An Integrated Algorithm for Low-Carbon City Evaluation Based on Neural Network and Analytic Hierarchy Process</b> X.Y. Tan and Y.M. Ren	129
<b>Reliability Optimization for Multi-State Series-Parallel System Design Using Ant Colony Algorithm</b> P. Di, Y.F. Xu, F. Li and T. Chen	133
<b>Research on Recommendation Algorithm of Matrix Factorization Method Based on MapReduce</b> H. Xia	138
<b>Research on the Characteristic of Social Information Ground's Spatial Structure and Information Dynamics</b> B. Jiang, R. Duan and Z. Wang	142
<b>Review of Regional Power Grid Fault Information Screening</b> H. Chen, W. Xiong, S.Y. Yang and H.Q. Li	147
<b>Single-Step Optimal Design for a Class of Nonlinear Singular System and Epidemic Control</b> G. Yang	153
<b>Trust Calculation Model in Knowledge Community</b> X.M. Li, Z.Y. Chen and S. Li	161
<b>Enhancing Endpoint Trusted Connect Using Lightweight Virtualization</b> S.H. Shi, Z.P. Li and Y.F. Liu	165
<b>Research of Distributed Search Engine Based on Hadoop</b> Z.Q. Wu and B. Pan	171
<b>One Fault Diagnosis Method Based on Fuzzy Equal Relationship and Rough Set Theory</b> S.J. Yang, J.H. Li and X.N. Liu	175
<b>Research on Application of Google Glass in the Field of Journalism</b> J. Cao, Y.J. Wen and P.Z. Zhang	180
<b>The Research of Smart Home Robots Based on 3G Mobile Network</b> X.Y. Feng and X.Q. Huang	184
<b>Design and Implementation of Intelligent Greenhouses Based on the Internet of Things</b> R. Ni	188
<b>Cloud Computing Application Pattern Library</b> L. Xu	192
<b>Cost Analysis of Public Cloud IaaS Access of SMEs</b> C. Cheng and A.Q. Chen	196
<b>Digital Library Knowledge Service Model Research Based on Mobile Cloud Computing</b> M. Yao	200
<b>Performance and Cost Aware Application Placement in Cloud</b> M. Xu, Q.Z. Li and L.Z. Cui	204
<b>The Design and Implementation of Cloud Computing Model and Platform</b> J.J. Jiang and Z.F. Ding	210

<b>A Framework of Automatic Deployment for Cloud Management Platforms</b> R.Q. Sun, J. Yang, Z. Gao and Z.Q. He	218
<b>The Research on Data Disaster Recovery in Emergency Management System</b> S.L. Chen and K. Ni	222
<b>How Network Features Can Improve Innovation Performance in Agricultural Industry Innovation Network: Network Scale, Linkage Intensity, Relationship Quality</b> Y.F. Du, S.H. Zhao and J.X. Lian	226
<b>Research of Crop Production System Based on the CPS Framework</b> Y. E and Y.P. Zhu	234
<b>An Effective Nonparametric Quantile Regression Method for Solving the Crossing Problem in Data Fitting Process</b> H. Wang, J.Y. Huang and Y.S. Yuan	245
<b>Grey Correlation Analysis Method and its Application in the Field of Engineering</b> Y. Wei	250
<b>Hopf Bifurcation Analysis in a Modified Optically Injected Semiconductor Lasers Model</b> J.A. Zhang, W.J. Du and K.E. Yao	254
<b>Stability Analysis and Application for Equilibrium Point of Differential Equation</b> D. Li	261
<b>Failure Logic Modeling Techniques Based on DEVS</b> Q. Sun, J. Jiao and S.S. Zhou	265
<b>A Hybrid Differential Evolution Scheduling Algorithm to Heterogeneous Distributed System</b> Y. Kang, Z.M. Wang, Y. Lin and X.Y. Guo	271
<b>Study on the Incentive Models and Algorithms in Environment Engineering Design</b> C.J. Rao and J.H. Dong	276
<b>Application of Data Mining in Sports in the Consumer Market Segmentation</b> W.P. Li, D.Q. Quan and J. Cai	280
<b>Prediction Method of Motor Vehicle Traffic Accident Based on Support Vector Machine</b> B. Yang and L.N. Zhang	284
<b>Research on Advertising Program Based on IPTV Viewing Data</b> Y.X. Song, P. Tian and Y.H. Zhou	288
<b>Scenery Spot Entity Resolution Model Based on Multistage Mixed Attributes</b> J.J. Wu, G. Lei and Y. Bao	292

## **Chapter 2: Mathematical Methods and Information Technologies in Power and Electronics Engineering**

<b>Based on Phase-Locked Loop the ADF4350 Filter Design</b> B.S. Zhao, Y. Xu and J.S. Qu	301
<b>Complex Spiral Antenna with Low Radar Cross Section Level</b> C.H. Mou, T. Hong, W. Jiang and S.X. Gong	306
<b>The Design for Zero Emission Greenhouse System</b> S.J. Zhang, B. Li and S. Liu	310
<b>A Survey of Vehicle-to-Grid Implementation through Virtual Power Plants</b> Z.W. Sun and J. Jiao	314
<b>Design and Implementation of Home Security System Acquisition Terminal</b> H. Zhang, K. Zhu and R.J. Geng	318
<b>Design of an Output-Capacitorless LDO Regulator with Adaptive Power Transistors</b> S.S. Chi, W. Hu, Y.S. Xu and M.H. Fan	322
<b>HF Voltage-Controllable Band-Pass Filter Based on Varactor</b> S.Q. Ma, C.R. Zhao and Y.P. Ji	327
<b>R&amp;D of a Microwave Field Intensity Standard Device for the Calibration of High-Frequency Field Probe</b> H.T. Yu	333
<b>The Influence Analysis of Rectifier Side Control Mode on Commutation Failure in UHVDC</b> J.X. Rong and J.R. Yang	339

<b>Research on Mid-Long Term Load Forecasting Based on Gray Fourier Series Residual Correction Model</b>	
D.X. Niu, P. Wang, Q. Wang, B.Y. Liu, W.C. Zhang and X.J. Meng	345
<b>Study of Fault Location Algorithm Based on Fault Analysis Method</b>	
L.Y. Li and R. Li	350
<b>Study on Multidimensional Intelligence for Realizing Seamless Power Supply between the Port and Ship</b>	
Y.Q. Song and L.M. Xiao	354
<b>Operation Optimization Approaches of Thermal Power Units with Big Data-Driven Hybrid Modeling</b>	
N.L. Wang, Y. Zhang, L.F. Zhu and Z.P. Yang	362
<b>The Electronic Throttle PID Control System Based on Single Chip Microcomputer</b>	
J.L. Wan, S.R. Cheng and H. Liu	367
<b>An Improved Estimation of Distribution Algorithm for Dynamic Voltage Scaling Problem in Heterogeneous System</b>	
Y. Kang, Z.M. Wang, Y. Lin and Y.F. Zhang	373
<b>Analysis and Application of Information Security Evaluation Abilities Based on Power Control Systems</b>	
N.G. Li, M. Xu, J. Fan and P. Gao	378
<b>A New Design of Ka-Band Circularly-Polarized Antenna</b>	
J.J. Fan, J. Li, D. Song, L. Wu and S.S. Peng	383
<b>The Design of Sleep Disorder Therapeutic Apparatus Based on CES</b>	
G.M. Mo, Y.H. Guo, S.M. Mao and J.A. Zhang	387

### **Chapter 3: Sound, Image, Signal and Video Processing and Technologies**

<b>A Correction Algorithm of Multi-View Image System</b>	
X.Y. Wang, H.X. Feng and J. Zhang	395
<b>A Fast Texture Recognition Technology Based on DFT</b>	
L. Juan and X. Zheng	399
<b>An Adaptive Stacked Denoising Auto-Encoder Architecture for Human Action Recognition</b>	
D.X. Wu, W. Pan, L.D. Xie and C.X. Huang	403
<b>An Image Retrieval Algorithm Based on HVS Weighted Color Features</b>	
L.L. Song, Q.H. Wang and Z.L. Pei	410
<b>Body Recognition Based on Depth Image</b>	
J. Zhang and W.J. Song	414
<b>Color Extraction and Research of Image Retrieval Based on Wavelet Territory</b>	
L.L. Song, Q.H. Wang and Z.L. Pei	418
<b>Control Techniques of Class D Audio Power Amplifier</b>	
Y.L. Zhang, G.F. Zhu and T.B. Wu	422
<b>Design of English Pronunciation Training System for Android</b>	
X.Y. Liu and J. Shen	427
<b>Feature Analysis and Selection of SAR Image Based on Contourlet Transform</b>	
S.Q. Huang, P.F. Su and Y.T. Wang	431
<b>Image Reconstruction Based on Compressive Sensing via CoSaMP</b>	
L. Zhang	436
<b>Insulator Species Recognition Based on Difference Features of the Color Image</b>	
W. Yang, H.Y. Yang and Q. Gao	441
<b>Online Tracking via Stabilizer and Attractor</b>	
X. Ao, F. Guo, Y. Lin and J. Dong	446
<b>Review of the Key Techniques of Video Velocimetry</b>	
J.J. Zhou and X.Y. Wang	451
<b>Robust and Efficient Solution to Absolute Orientation in Low-Altitude Photogrammetry</b>	
H.Q. He and P.G. Cheng	456
<b>Study on Camera Pose Estimation</b>	
X.Z. Zhu, X.Q. Chen and X. Song	462

<b>Wave Equalization - A New Image Enhancement Method for Gray Image Binarization under Uneven Illumination</b>	
W. Wei	470
<b>An Image Retrieval Method Based on Machine Learning and SVM</b>	
H.Y. Xiong and J. Zhao	474
<b>Color Image Enhancement on YIQ Color Space</b>	
F. Xiao, S.Q. Miao and L. Guo	478
<b>The Design of Digital Image Display System Based on FPGA</b>	
C.Y. Yang, C.Q. Cui and Q. Wang	482
<b>The Implementation of Parallel Speed up Stereo Matching Based on Reduced Graph Cuts</b>	
P. Zhou and M. Liu	486
<b>An Improved Online De-Noising Method for Ultrasonic Echo Signal of Wear Debris in Oil</b>	
Y.N. Li, P.L. Zhang, C. Xu, Y.Q. Zhang and L.Y. Li	490
<b>Real-Time Video Acquisition and Frame Compression Processing Technology Based on FFmpeg</b>	
Y.G. Xu and S.X. Cao	494
<b>Recognition of Facial Expression via Kernel PCA Network</b>	
D.K. Hu, A.S. Ye, L. Li and L. Zhang	498
<b>Symmetrical Fourth-Order Partial Differential Equation De-Noise for THz Pulse Imaging</b>	
H.T. Xing, J.J. Liu, C.Y. Chen and Y. Du	502
<b>The Research of the Real-Time High-Resolution Image Acquisition Based on Embedded System</b>	
X.Y. Feng and X.Q. Huang	508
<b>Information Real-Time Transmission Algorithm Based on Mobile Platform</b>	
A.P. Cai and X. Zheng	512
<b>Smoothly Rendering of Large-Scale Vector Data on Virtual Globe</b>	
C. Yang, S.Y. Dai, L.D. Wu and R.H. Yu	516

## **Chapter 4: Sensors, Testing, Detection, Measurement and Monitoring Technologies**

<b>A Framework for Stream Data Mining over Wireless Sensor Network</b>	
Y.Q. Zhang, M. Tu, Y. Xu and Y. Li	523
<b>Design of a Pipeline Leak Detection System</b>	
Q. Wang, K.X. Hong, X.X. Chen and H. Huang	529
<b>A Reasoning Method of Transformer Fault Causes Based on Fuzzy Petri Net</b>	
W.H. Zhang, J.S. Yuan, K. Zhang and Z. Li	537
<b>Dam Safety Monitoring Model Based on Neural Network and Time Series</b>	
L.L. Feng and X. Li	543
<b>Design and Simulation Analysis of Two-Phase Grating-Type Displacement Sensors with Unequal-Pitch</b>	
X.Q. Wang, H.G. Zhang, Y.T. Lei, G.L. Zhu and Y. Yu	548
<b>Intelligent Diagnosis in Hydraulic Impact Fault by Combined Improved EEMD with SVM</b>	
M.J. Zhang, K.J. Cai, J. Tang, J. Huang and K. Chai	553
<b>Precise Ranging Technology Application Research Based on IEEE802.15.4a</b>	
Z.H. Wei, Z.H. Feng, Z.F. Wang and D.B. Cai	558
<b>A Calculation Method of Transformer Fault BPA Based on Spatial Interpolation and IEC60599</b>	
W.H. Zhang, J.S. Yuan, T.F. Zhang and H. Yang	563
<b>A Guide Cane System for Assisting the Blind in Travelling in Outdoor Environments</b>	
M.Y. Fan, J.T. Bao and H.R. Tang	568
<b>A Limbus-Based Approach for Eye Gaze Trackers</b>	
C.Y. Chiang, R. Christanto, S.G. Miaou and Y.K. Chen	572
<b>A Method for Substation Equipment Temperature Prediction</b>	
Q. Zhao, Y.Q. Li and T. Li	580

<b>Fly Ash Autoclaved Aerated Concrete Field Detection Analysis of Heat Transfer Coefficient of Self Thermal Insulation Building Envelope</b>	
L. Bai, M. Niu and Y. Li	585
<b>Research and Simulation for Vegetation Health Index Detector Based on Remote Sensing</b>	
N. Lin and D.M. Li	590
<b>Stability Assessment of Minor-Caliber Vessel Perfusion System for <i>Ex Vivo</i></b>	
Y.Q. Liu and N. Huang	594
<b>Visual C++ Call MATLAB Multi-Scale Edge Detection</b>	
Y. Wu and Y.T. Shi	598
<b>LSD Based Pose and Position Estimation for UAV Landing</b>	
X.Y. Liu and P.P. Liu	602
<b>Methods of Path Identification and Processing in Freescale Intelligence Car</b>	
C. Jia, W.Q. An, X.F. Bo and X.F. Chen	606
<b>Modeling and Test of Aerodynamic Force for a Piezoelectric Transducer Drive Mechanism</b>	
J. Lu, Y.F. Hang and Y.J. Hu	610
<b>Design and Implementation of Service-Oriented Information Acquisition System of Smart Meter</b>	
D. Zhang, S.H. Jing and Q.L. Ma	614
<b>The Research on the Tracking and Positioning Platform Based on the Android Smartphone</b>	
M.H. Xu, Y.Q. Wang and L.X. Xu	618
<b>Stress Analysis on a Connecting Rod Big End Bearing of Two-Stroke Marine Diesel Engine</b>	
G.Z. Yu, H.L. Yu and S.L. Duan	623
<b><i>In Situ</i> Shear Test of Zhongnan Concave Landslide</b>	
N.Q. Wang, Y.Q. Xue, X.Y. Cheng and Q. Pang	627
<b>Study on Anomaly Detection Methods in Hyperspectral Image</b>	
Y.T. Wang, S.Q. Huang, H.X. Wang and D.Z. Liu	631
<b>A Facile Method to Measure pH and Calcium Content of Different Kinds of Eggs by Ion-Selective Electrodes</b>	
P. Yuan, P.F. Shan, Y.H. Liu, Q. Liu and J.J. Chen	636
<b>Study on the Beneficiation of an Oxidised Copper Ores in Yunnan Province</b>	
T.G. Jiang, Z.C. Wei and T.M. Zhang	641

## **Chapter 5: Control and Automation Technology, Modeling and Simulation**

<b>A Combined Location Method for Mobile Robots Based on Dead Reckoning and WLAN</b>	
F. Jia, K. Liu and D.C. Xu	649
<b>Application of Back-to-Back Circuit in the Intelligent Wheelchair Charging Technology</b>	
L. Wang, R. Yang, X.F. Zhang and Y. Ma	654
<b>Design and Implementation of an Intelligent Home Control System</b>	
B.Q. Xu	660
<b>Design and Realization of Control System for New Nuclear Fuel Elevator System</b>	
Y. Fang	664
<b>Flocking with Fault Tolerant Control and Obstacles Avoidance for Mobile Robots Based on Grid Maps</b>	
Y. Xiong and J.L. Lin	669
<b>Fuzzy Coordinated Control for Multi-Motor Drive System</b>	
D.C. Gao and F. He	676
<b>Matlab Simulation of System with Fuzzy Control in Kiln Temperature</b>	
X.H. Shi, Q.J. Meng, X.M. Li, Z. Zheng, X.Y. Ma and Q.L. Ma	680
<b>Robust Control and Stability Analysis for Stochastic Systems with Markov Jump</b>	
C. Wang	684
<b>Stability Analysis and Related Control Research of Nonlinear and Uncertain Stochastic Systems with Time-Delay</b>	
C. Wang	688
<b>The Design and Analysis of Control System Applied in Artificial Grass Tufting Machine</b>	
H.L. Dai, Y. Lin and J.L. Song	692

<b>The Design and Implementation of Remote Optimization and Control System of Cement Industry</b> C.S. Zhang, S.H. Jing, Q.L. Ma and L.G. Shi	698
<b>The Vector Control System of Induction Motor Based on Fuzzy Control</b> H.L. Dai, J.L. Song and S.H. Wu	702
<b>Chaos Anti-Synchronization between Chen System and Lu System</b> X.Y. Wu, H. Wu and H. Gong	710
<b>Ordinary Differential Equation Model and its Application in the Prediction Control of Population</b> X.M. Huang	714
<b>Risk Assessment of Cascading Failure Considering Adverse Weather Condition and UPFC Corrective Control</b> P.J. Shi, N. Xu, J.Y. Chen and C.X. Guo	718
<b>Simulation and Analysis on Load-Sensing Swash Plate Piston Pumps Based on AMESim</b> L. Tang, Z.Q. Li and T.T. Gao	723
<b>Study on the Prediction Control Model Based on GM(1, 1)</b> Z.C. Zhang	728
<b>The Design of Bolts Tighting Test System for Launch Vehicle Based on PLC and Servo Motor</b> T. Wang, M.L. Zhang, Y.K. Chen and J.Y. Sun	732
<b>The Influence of Network Bottleneck on Train Energy Consumption in Railway Traffic</b> H.Q. Fan, K.P. Li and B. Jia	737
<b>Application of Intelligent Track Guiding Control Algorithm on the Temperature Control of the Water Bath of a Specific Container</b> W.B. Wang, Z.Y. Ge, S.Y. Wang and S. Chen	743
<b>Intelligent Track Guide Control for Hearth Negative Pressure</b> W.B. Wang, D.D. Mu, S.Y. Wang and Z.Y. Ge	747
<b>The Correction of Steering Gear Monitoring and Control Parameters Based on the Method of Least Squares</b> J.L. Wan, G.Y. Li, H. Liu and S.R. Cheng	751
<b>Modeling NCS Base on 1553B Bus with CPN</b> J.C. Bi, Y.F. Liu, W.J. Yang and Q. Li	755
<b>Feedback Controlled Adaptive Bandwidth Server Scheduling and its Application in NCS</b> J.C. Bi, Q. Li, W.J. Yang and Y.F. Liu	761
<b>Dynamics Modeling of the Drive Mechanism for Flapping-Wing Micro Rotor</b> J. Lu, Y.J. Hu and Y.F. Hang	766
<b>Optimization of Stretch Forming Process and Springback for Aircraft Panel</b> H.A.O. Ali Ammar and X.X. Li	770
<b>Energy Absorption Device with Pendulum of Automobile Seats Head Restraints</b> T. Jiang, G.L. Zhang, H.M. Li and M. Li	774
<b>Modeling and Simulation of the Random Ocean Wave Based on Spectrum Analysis</b> D.Y. Sang, J.J. Zhao and Y. Wang	779
<b>Three-Dimensional Geological Modeling and its Application in Gas Hydrate</b> P. Li and L. Hu	784

## **Chapter 6: Communications Technology**

<b>A Construction Method of LDPC Codes for Space Optical Communications Based on Protograph</b> Q.H. Zhang and J.W. Zhang	791
<b>A Decentralized Bandwidth Allocation Scheme for Long-Reach Passive Optical Network</b> F. Miao and L. Feng	795
<b>A MAC Throughput in the IEEE 802.11ac over Error-Prone Channel</b> H.C. Lee	801
<b>A Polarization Stabilization Control System Based on DSP</b> Q.X. Hou, X.G. Yuan, Y.G. Zhang and J.N. Zhang	806
<b>Analysis of WCDMA Packet Scheduling Strategy</b> M. Wang and L.J. Zheng	811

<b>Blind Recognition of Recursive System Convolutional Codes</b> J. Liu, L.M. Zhang and Z.G. Zhong	816
<b>Design of Communication for Commodity Trading System</b> C.X. Qi	820
<b>Improved Constant Modulus Algorithm for Blind Equalization of QAM Signals</b> E.A. Mwangosi, C. Yan and N. Ur Rehman	824
<b>Research on Novel Structure of Filter Banks Multicarrier Array Pattern Synthesis System</b> Y. Liu and Y.R. Zhang	830
<b>Set of Frequency-Hopping Sequence with Optimal Hamming Correlation</b> H. Wang and P. Huang	834
<b>The Algorithm Design of Optical Fiber Topological Query</b> C.J. Hu and Y. Tian	839
<b>The Application Research on the TD-LTE Technology in Military</b> J.M. Dai, H.F. Geng and Z.X. Liu	843
<b>Threaded Space Time Code Design for CPM with Joint Decoding</b> G.W. Lei, Y.A. Liu and X.F. Xiao	847
<b>Application of OFDM Technology in 4G Mobile Network</b> Q.P. Liu, Y.N. Yang and W.X. Li	851
<b>BER Performance Analysis of MIMO-CPolSK Using on Free-Space Optical Communications</b> Y.M. Lin, X.G. Yuan, Y.A. Zhang and J.N. Zhang	856
<b>Optical OFDM for Downstream Transmission in Long-Reach PON</b> X.X. Gong, H. Li, P.C. Han and Y.F. Zhou	860
<b>Research of Distribution Network Communication Based on P1901</b> L.W. Zang, J. Mao and Q. Gao	864
<b>Plan of Power Communication Network Based on Smart Grid Services</b> W.L. Fan, P. Ma and Q. Gao	869
<b>An Improved SNR-Based Cooperative Spectrum Sensing in Cognitive Radio Networks</b> J. Guo, Y. Gu and D.H. Jing	874
<b>Communication System Architecture for Hierarchical Virtual Power Plant Control</b> Z.W. Sun	878
<b>Communication Cost Optimized Session Key Transmission Scheme for WSN Based on Non-Perfect Secret Sharing</b> Z.X. Lan, G.M. Xia and A.L. Zhou	882
<b>Design of Intelligent Management System for Open Labs Based on Wireless Transmission</b> J.X. Wang	889

## **Chapter 7: Computer Network and Information Security**

<b>A Novel Proxy Re-Encryption with Keyword Search</b> X.Y. Meng, Z. Chen and X.Y. Meng	897
<b>A Well Modularized Computer Network Architecture</b> Y. Wang and J.H. Zheng	902
<b>An Efficient Mobile User Authentication Scheme with User Anonymity for Wireless Communications</b> W.J. Li, P. Zhu, H. Zhang and Z.P. Jin	906
<b>Broadband Self-Organizing Network Channel Allocation</b> F.X. Zhu, Z.Y. Zhang and M.J. Wu	910
<b>Cluster-Based Intrusion Detection Model for Wireless Sensor Network</b> X.L. Zeng	914
<b>Design and Implementation of a Fast Algorithm for File Integrity Verification</b> T.T. Li and R.L. Jiao	918
<b>Detecting Application-Layer Attacks Based on Hidden Semi-Markov Models</b> B.L. Xie and Q.S. Zhang	923
<b>Economics of Information Security Investment Integrated with IDS and Attacker's Behavior</b> R.Y. Ye, Z. Jiang and Q. Wang	928



<b>Improve Testing and Pre-Evaluating Expert System by Computer Networks and Security</b> J.X. Peng and Y.J. Zhou	932
<b>Predictive Algorithm of Network Delay Based on Robust Kalman Filter</b> F. He, H. Zhang and B.B. Li	937
<b>Protecting User's Privacy from Browser-Based Attacks</b> G.F. He, T. Zhang, Y.Y. Ma and J.X. Fei	941
<b>Research and Implementation of Intrusion Detection Based Genetic Algorithm</b> G.C. Cui and B.T. Liu	946
<b>Right Transfer Method Based on Double HASH Chain</b> P. Zhu and M.Y. Lu	952
<b>Security Protection and Solving Procedures of University Network</b> J. Li and T.H. Ao	958
<b>The Research of Resource Scheduling Model in Green Energy-Saving Computer Rooms</b> H.L. Dong, X.F. Jiang and X. Du	962
<b>Interference Analysis of LTE Network and RF Optimization</b> T. Li	966
<b>Network Security Risk Assessment Based on Fuzzy Analytical Hierarchy Process</b> X. Peng and J.Q. Cui	971
<b>Seasonal Epidemics Immunization on Correlated Networks</b> S. Yan, S.T. Tang, S. Pei and Z.M. Zheng	976
<b>The Network Management System of WSS-Styled ROADMs Based on Openflow</b> Y.N. Wu, X.G. Yuan, Y.A. Zhang and H.Y. Mu	980
<b>The Research of Distributed Computer Network Technology Based on Web</b> Q. Wang, C.Y. Yang and C.Q. Cui	985

## **Chapter 8: Database Systems and Software Development**

<b>A SVM QoS Estimation Model for the Component-Based Software System</b> P. Nie	991
<b>An Android Application of Evaluation Constitution in Traditional Chinese Medicine</b> Z.B. Li and J.Q. Du	995
<b>Design and Implement of Teaching Resources Management Network Platform Based on MVC</b> J.J. Zhang, X.H. Pu and Z.H. Zhang	999
<b>Design and Implementation of English Electronic Dictionary System for Android</b> X.Y. Liu and J. Shen	1003
<b>Design and Implementation of Open Platform for the Multi-Screen Applications</b> F.J. Kong, L. Xu and S.X. Cao	1007
<b>Loading RDF/OWL File into Oracle NoSQL Database Using a Bulk Loading and Parallelization Techniques</b> K.A.L. Khamis, L. Zhong and H.Z. Song	1011
<b>Ontology Construction and Semantic Modeling Method Research of Education Resources within the Architecture of Cloud Service</b> B.X. Yang, J. Huang, K. Liu, Y.H. Ni, X. Tong and W.B. Gen	1016
<b>Research and Build a Test Platform for EPON OLT Software</b> Q. Yu, G. Zhang, P.F. Yu, H. Huang and W. Chen	1023
<b>Research on the Key Technologies of Highly Reliable Embedded IDE Based on R80515</b> X. Han, X.F. Suo and B.M. Zheng	1027
<b>Structured Big Data Management System Supported Cross-Domain Query</b> T. Xu, G. Fu, H.Y. Tan, H. Zhang and X.R. Liu	1033
<b>The Key Technology Research of Mechanical Parts Dynamic Management Database System</b> W.M. Li and S.J. Zhang	1039
<b>AG-Index: Adjacent Edge Hash Index for Graph Databases</b> H.H. Wang, Y. Peng and H.J. Huang	1045
<b>Research and Design of a Massive Offline Data Analysis System Based on Hadoop</b> S. Pan, L.P. Zhu, B. Hu and P. Yang	1049

<b>Research on Data Mining Optimization and Security Based on MapReduce</b> H. Xia	1053
<b>A Novel over Writable and Restoring Solution of Filesystem for NAND Flash</b> X.R. Li, J.C. Zheng, N.N. Huang and H. Lei	1057
<b>Data Provenance Tracing for Transformation Diagram Based on Wivern</b> C.F. Dai, X.Y. Zhang and Y.P. Zhao	1061
<b>Analysis of the Construction of the Library Information Resources from the Perspective of Big Data</b> Y. Li	1067
<b>Research on Software Implementation of Human Reliability Analysis in Power System</b> J.X. Tang, Y.K. Bao, P.J. Shi, W.H. Liu, T.P. Wang and C.X. Guo	1071
<b>Research and Application of Responsive Big Data Visualization Based on HTML5</b> P. Yang and H.Y. Han	1075
<b>Application of ALOHA in Emergency Response for Hazardous Chemicals Accidents</b> X.J. Jiang, Q. Hu, S.S. Wang, F. Liu, X.Y. Zhang, L. Yang and C.L. Ma	1080

## **Chapter 9: E-Commerce, E-Government, Internet Technologies**

<b>A Distributed Operation Architecture of MOOCs for Open Experiments</b> Y.F. Ding, T. Cheng, P. Feng and G. Xu	1089
<b>A Study of Hierarchical Mobile Payment System Based on Open API</b> L.Z. Xiao and S.X. Cao	1096
<b>A Study on the Influence of Website Traits on Purchase Willingness in the Perspective of Innovation Diffusion Theory</b> L.M. Yang, J.Y. Zhang, Y.T. Li and H.B. Wan	1100
<b>An Empirical Study on Post-Adoption Behavior of Information Technologies for Health Care Management: A View of Big Five Personality</b> W.X. Lu, Y.Y. Wu, C.Y. Liang, Z.Z. Gu, Y. Zhao, R.L. Wang and D.X. Gu	1106
<b>Design and Implement of Commodity Client Electronic Trading System</b> C.X. Qi	1115
<b>Design and Realization of Technology Intelligence Push Based on WeChat</b> L.M. Huang, Q.Y. Zhu, J. Ding and C.J. Xu	1119
<b>Design of E-Commerce Logistics Enterprise CRM System</b> X. Sun and W. Zhao	1123
<b>Factors Affecting Customer Loyalty for Online Group-Buy</b> B. Wu and C.Y. Zhang	1127
<b>Information Technology Application in Small and Medium-Sized Professional Library Business Management - With the National Institute of Metrology Library as an Example</b> C.J. Yang, L. Li, Y.T. Liu and F. Pan	1131
<b>Knowledge Sharing Research on Web 2.0</b> B. Wu and C.Y. Zhang	1136
<b>Networking Agglomeration Effect of E-Commerce Platform in Industry Clusters</b> Z.Q. Ren and H.B. Zhang	1140
<b>On the Construction of the Service Platform of the Mobile Library - Taking SUAA as a Research Model</b> X. Han	1145
<b>Personalized Customization on Science and Technology Intelligence</b> F. Fei, Q.Y. Zhu, C.J. Xu, L. Zhou and X. Li	1149
<b>Quantitative Analysis of the Process Models in IT Service Provision Engineering</b> G.X. Zhao, X.Y. Liu and Z.W. Gao	1153
<b>Research on Planning and Design of Unified Payment Platform in Colleges and Universities</b> H.L. Zhang, Q.L. Tong, Y.L. Wang and M.Y. Li	1160
<b>Research on the Impact of the Development of E-Commerce in China on the Supply and Demand for Commercial Real Estate on the Basis of Grey System Theory</b> F. Dong and M.Q. Wang	1167
<b>Research on the Mobile Net Business Knowledge Sharing Strategy of Fraud Evade</b> Y. Zhang and J.H. He	1171

<b>Study on Tropical Agricultural Mobile E-Commerce System in Hainan</b> J.H. Fang, H.X. Luo, L.L. Wang and S. Chen	1174
<b>The Inquiry of Massive Open Online Course's Profit Model</b> Q.Y. Yang	1178
<b>The New Trend of Knowledge Service Crowdsourcing Model Based on the University Library</b> R. Li	1182
<b>Government Microblogs: Innovative Approaches for E-Government</b> L.J. Zhou	1186
<b>Survey on Review Spam of E-Commerce Sites</b> S.X. Yang and L.J. Fan	1190
<b>Multi-Choice of E-Business Model for Best Practice within E-Business</b> T.Y. Lung	1194
<b>Improvement of a Proxy Blind Multi-Signature Scheme</b> L.M. Sha	1198
<b>Data Interactivity in Social Networks as a Strategic Design - An Approach to Fair Trade</b> M.A. Rubio Toledo, E. Moras Gomez, R.V. Uribe, A. Higuera Zimbrón, A.S. Ortega, E. Rivera Gutiérrez and S.A. Utrilla Cobos	1203
<b>Analysis of Data Backup and Recovery System</b> Z.Q. Wu and H. Li	1207
<b>Applications of the Network and Computer Technology in the Model Optimization of Multi-Object E-Auctions</b> C.J. Rao and J.H. Dong	1211
<b>Evaluation of APP User's Satisfaction Based on Fuzzy AHP</b> Y.R. Chen and S.X. Cao	1215
<b>Sentiment Analysis of Chinese Micro Blog Using Machine Learning and an Improved Feature Selection Method</b> J.H. Chen and J.H. Wu	1219
<b>Unsupervised Sentiment Orientation Analysis on Micro-Blog Based on Dependency Parsing and Hierarchical Dirichlet Processes</b> Y.W. Tang, B. Wang, H.H. Tang and Y.Y. Xi	1224
<b>Measuring User Influence in Sina Microblogging Social Network</b> S.M. Miao, X.Q. Yu and W.G. Wan	1233

## **Chapter 10: Management and Decision Support Systems**

<b>A Minimized Order Distribution Risk Model Based on Immune Algorithm</b> T. Liu, Q. Wang and C.H. Xie	1241
<b>Lesson Learned in the Research and Development of Specialized Vehicle Health Management System: A Hybrid Approach for Decision Support System</b> C.R. Liu, D. Hu, W.M. Lv and D.J. Fang	1246
<b>Multi-Attribute Decision Making Method Based on the Satisfaction under Interval-Valued Intuitionistic Fuzzy Environment</b> M. Gui and Y.L. Huang	1253
<b>Predicting the Shelf-Life of Single Base Propellants</b> M.J. Choi, H.J. Park and J.Y. Yang	1257
<b>Research on the Technology Spillovers Effect of Import in the Yangtze Delta Region</b> X.W. Yang	1263
<b>Analysis of Factors Affecting the Attractiveness between Shipping Center and its Hinterland</b> R. Wu, M. Tu and W.F. Sun	1268
<b>Construction of the Whole Process System of Intellectual Property Management in Scientific Research Project Based on the Policy Deconstruction and Reconstruction</b> Y. Fu, J. Peng and H. Zhao	1274
<b>Intelligent Energy-Saving Decision Making and Delicacy Management for Power Enterprises</b> Y. Zhang and N.L. Wang	1282

<b>Smart Sustainable Development Approach and its Implementation in Engineering Organizations</b>	
L. Ivascu, M. Izvercian, S. Potra and L.I. Cioca	1287
<b>The Application of Information Technology in Bank Accounting Internal Control Risk</b>	
X.C. Shi and S. Wang	1291
<b>A Constraint-Based Approach for Skilled Workforce Scheduling Problem</b>	
Y. Li, Z.R. Xiao, W.Q. Dou and Y. Yang	1295
<b>Strategic Analysis of Public Cloud IaaS Access of Vocational Colleges</b>	
C. Cheng and A.Q. Chen	1300
<b>Research on Data Management for China Railway Based on Computer Science</b>	
J. Cheng	1304
<b>Research and Practice in Proactive Application Maintenance</b>	
Y.X. Li, C. Yu, Y.Y. Qi and Q. Zhang	1308
<b>Agent-Based Modeling and Simulation on Planning Analysis</b>	
H. Wu and Z.H. Peng	1312
<b>Research of a Multi-Level Analytic Comprehensive Evaluation Model and Applied</b>	
Y. Tao and X.F. Cheng	1320
<b>European Option Pricing under the Double Exponential Jump Model with Stochastic Interest Rate, Stochastic Volatility and Stochastic Intensity</b>	
J.Y. Sang, N. Zhang and M. Jian	1325
<b>Computation Model of Network Scale for Urban Rail Transit Based on Mutualism Model</b>	
W. Zhao, Y.M. Gao and M.S. Dong	1329
<b>Analysis of Open Innovation from the Perspective of Technology Alliance</b>	
T. Li and L. Yang	1334
<b>Research on Distribution Production Management System in “Centralized Maintenance” Mode</b>	
S.J. Chai, J. Zhou, X.H. Chen, X. Zhang and J.H. Wu	1339
<b>Study on Demand Side Management of Railway Electricity System</b>	
B.F. Liu	1347

## **Chapter 11: Information Technologies in University and Education**

<b>A Framework of Smart Education and its Applications on Teaching and Learning Enhancement</b>	
B. Shen, S.Q. Li and Y.L. Chen	1353
<b>Construction of Practical Talented Students Cultivation Course System of Internet of Things</b>	
H. Long and Y. Li	1357
<b>Guiding Strategy of Autonomous Learning under the Network Environment</b>	
L.H. Huang and B. Gui	1361
<b>Innovation and Development of Curriculum Reform for Postgraduate Education of Materials Science and Engineering</b>	
C.N. Jing, Y. Li, S.H. Wang, L.S. Zhao and S.B. Xu	1365
<b>Research on Improving of Teachers Instructional Design Ability</b>	
D.D. Wei and L.X. Qiu	1370
<b>Research on the Education Model of MHA Based on Comparison between China and America</b>	
H.B. Guo and Y.S. Guo	1374
<b>Study on College Student Education Management Evaluation and Countermeasures Based on MFA</b>	
S.K. Yang, Z.F. Xu and L.M. Zhou	1379
<b>Preparing Research on Pupils’ Innovative Abilities under Information Environment in Agricultural Schools</b>	
Z.X. Liang	1383
<b>The Application of Multimedia Technology in Mathematics Teaching</b>	
W. Wu	1387

<b>Application of Fuzzy Optimization Theory for the Decision of Talents Recruitment in Universities</b> Q. Liu	1391
<b>Research and Implementation of University Statistical Information Collection System under the Conditions of Multiple Data Sources</b> B.S. He, W.H. Yang, X.K. Ma, J.T. He and P.Y. Sun	1396
<b>Research on Offline Access Control Management Mode of Temporary Houses in Universities</b> H.L. Zhang, W. Li, Q.L. Tong and S.X. Yin	1402
<b>RETRACTED: Technological Innovation Leads the Development of University Library Service</b> L. Xu	1409
<b>The Application of Blog-Based JiTT in English Reading Teaching</b> H.Q. Yu	1413
<b>Study on the Evaluation Ability of Personalized Information Service of Higher Vocational Library</b> D.R. Jiang and X.G. Ding	1417
<b>eBooks Research: Literature Review on Trends and Contributions, 1998 to January 2014</b> K.T. Yu, H.P. Lu, T.Y. Luor and Z.L. Ren	1421
<b>Causal Feedback Model for the Dynamic Simulation of Kindergarten Operation</b> T.Y. Lung	1431
<b>A Correcting Model for Preposition Error in English Essays of Chinese Student Based on Hybrid Features Classification</b> Y. Zhou, Z.H. Rong and G.M. Huang	1435
<b>A Corpus-based Contrastive Study on Academic Vocabulary of RA Abstracts in Applied Linguistics</b> Y.L. Wang	1442
<b>Design and Realization of the Student Dormitory Management System Based on RFID</b> Z.F. Chen, X. Ding, S.P. Sun, L.M. Shi and Y.X. Sun	1447
<b>Construction of Mobile Learning Network System Based on Cloud Computing</b> Y.L. Wei, H. Zhao and Z.L. Cao	1451