

Patent Selections:

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

MEDIA INDEPENDENT HANDOVER

1. Olvera-Hernandez, U., Carlton, A.G., Zuniga, J.C. Measurement request report extensions for media independent handover. **US7616956 (2009)**.
2. Pittmann, F. Method and apparatus for temporarily suspending a network connection. **EP2028901A1 (2009)**.
3. Purkayastha, D., Perras, M., Rahman, S.A., Olvera-Hernandez, U., Carlton, A.G., Kaur, S. Integration of 802.21 media independent handover functionality to radio interface layer and telephony server. **WO2009058748A1 (2009)**.
4. Oba, Y., Das, S., Cheng, Y.-H.A., Taul, M., Taniuchi, K. Data type encoding for media independent handover. **US20090047959A1 (2009)**.
5. Zhao, Z.W., Won, J.-J., Kim, Y.-S., Hwang, E.-S., Lei, P. Method and system for supporting IP multimedia subsystem for voice call continuity based on media-independent handover. **US20090088162A1 (2009)**.

HETEROGENEOUS NETWORKS

1. Kobayashi, H. Mobile communication device and mobile communication method. **WO2009098853A1 (2009)**.
2. Kwak, Y.W., Kim, Y.H., Lee, J. Supporting handover of multi-mode mobile terminal between heterogeneous networks. **US7606200 (2009)**.
3. Alve, J. Proximity enforcement in heterogeneous network environments. **US7613829 (2009)**.
4. Zhong, H., Wang, S., Liu, Y. Heterogeneous network and handover method between heterogeneous networks. **EP1986461A4 (2009)**.
5. Kwon, H.Y., Cheon, K.Y., Park, A.S. Handover method of mobile terminal between heterogeneous networks. **WO2009078548A1 (2009)**.

MOBILE IP

1. Mizukoshi, Y. Mobile IP control system, mobile IP control method, and mobile IP control program. **EP2124400A1 (2009)**.
2. Muraoka, K., Seguchi, Y. Mobile communication system and method thereof. **US7515590 (2009)**.
3. Leung, K.K., Dommetty, G. Methods and apparatus for securing proxy Mobile IP. **US7505432 (2009)**.
4. Thubert, P., Ribiere, V.J., Wetterwald, P. Route optimization for a mobile IP network node in a mobile ad hoc network. **US7593377 (2009)**.

5. Mizukoshi, Y. Proxy mobile IP system, access gateway, and registration notification message order judgment method used for these. **WO2009031617A1 (2009)**.

INTERNET SECURITY

1. Kennis, P.H. Method and system for intrusion detection in a computer network. **US7574740 (2009)**.
2. Gregg, R.L., Giri, S., Goeke, T.C. Method and system for controlling access, by an authentication server, to protected computer resources provided via an internet protocol network. **US7290288 (2009)**.
3. Rowney, K.T.B., Nadig, D.S. System, method and article of manufacture for secure network electronic payment and credit collection. **US5987140 (2009)**.
4. Williams, H., Hughes, K., Parmar, B.G. System, method and article of manufacture for network electronic payment instrument and certification of payment and credit collection utilizing a payment. **US6016484 (2009)**.

AUTHENTICATION

1. Ide, C.E., Brass, P.C., Doty, T.R. Method and apparatus for network assessment and authentication. **US7162649 (2009)**.
2. Taylor, P., Mewett, S., Brass, P.C., Doty, T.R. Vulnerability assessment and authentication of a computer by a local scanner. **US7178166 (2009)**.
3. Aoshima, H. Method and system for mediation of authentication within a communication network. **US20090100261A1 (2009)**.
4. Morita, C., Sato, T. Authentication terminal and network terminal. **WO2009028606A1 (2009)**.
5. Asaumi, Y. Authentication system, server apparatus and authentication method. **US20090193502A1 (2009)**.

ACCESS CONTROL

1. Morita, Y. Access control system, access control method, and recording medium. **WO2009113483A1 (2009)**.
2. Hammoutene, M., Petkovic, M., Conrado, C. Role-based access control. **US20090019516A1 (2009)**.
3. Patrick, P., Byrne, D., Yagen, K.D., Xu, M., Howes, J., Falco, M.A., Riendeau, R.J. Security control module. **US7603547 (2009)**.
4. Mishra, A., Subramanya, K., Taylor, B.E. Container level access control mechanism. **US7503063 (2009)**.

5. Morita, Y., Nakae, M. Access control system, access control method, and access control program. **US7624424 (2009).**

COMPUTATION

1. Subramaniam, S. Jacobian scaling parameter system and method for automatic grid generation. **US7577547 (2009).**
2. Huppenthal, J.M., Caliga, D.E. Multi-adaptive processing systems and techniques for enhancing parallelism and performance of computational functions. **US7620800 (2009).**
3. Horvitz, E.J., Koch, P.B., Sarin, R.K. Precomputation of context-sensitive policies for automated inquiry and action under uncertainty. **US7613670 (2009).**
4. Stanfill, C.W. Startup and control of graph-based computation. **US7577628 (2009).**
5. Vasseur, J.-P., Bradford, R. System and method for retrieving computed paths from a path computation element using a path key. **US7558276 (2009).**
6. Vasseur, J.-P., Bradford, R. System and method for retrieving computed paths from a path computation element using encrypted objects. **US7496105 (2009).**

NEURAL NETWORKS:

1. Ayala, M., Adjoundi, M. Artificial neural network design and evaluation tool. **US7502763 (2009).**
2. Benzschawel, T.L., Dzeng, C., Berman, G.A. Method and system for artificial neural networks to predict price movements in the financial markets. **US7529703 (2009).**
3. Fulton, D.D., Stephenson, S.V. Determining stimulation design parameters using artificial neural networks optimized with a genetic algorithm. **US20090182693A1 (2009).**
4. Commons, M.L., White, M.S. Intelligent control with hierarchal stacked neural networks. **US7613663 (2009).**
5. Schneegass, D., Udluft, S. Method for computer-aided control and/or regulation using neural networks. **WO2009033944A1 (2009).**
6. Ershov, A.V. Context-based search visualization and context management using neural networks. **US7475072 (2009).**
7. Kozma, R., Werbos, P.J. Methods of improved learning in simultaneous recurrent neural networks. **US20090299929A1 (2009).**

CONNECTIONISM

1. Au, L. Method and system for using voice input for performing device functions. **US7536374 (2009).**
2. Srinivasa, N., Barajas, L.G. System and method for temporal data mining. **US7526461 (2009).**
3. Meng, Z., Pao, Y.-H. Automatic neural-net model generation and maintenance. **US7483868 (2009).**

4. Huddleston, D.E., Pao, Y.-H., Cass, R., Yang, Q., Polyak, E., Cryer, P., Garofalo, C.E. Method and apparatus for discovering evolutionary changes within a system. **US7533006 (2009).**

DATA MINING

1. Campos, M.M., Milenova, B.L., Stengard, P.J. Data-centric automatic data mining. **US7627620 (2009).**
2. Chitgupakar, M., Ramsey, M.S., Selby, D.A. System and method for selecting a data mining modeling algorithm for data mining applications. **US7512626 (2009).**
3. Moritz, S., Larsson, T., Svensson, M. Inferring environmental knowledge through near field communication and data mining. **WO2009096884A1 (2009).**
4. Leary, R.M., Legg, M.F., Thornton, J.M. Data normalisation for investigative data mining. **WO2009081212A3 (2009).**
5. Crivat, I.B., Petculescu, C., Netz, A. Explaining changes in measures thru data mining. **WO2009006028A3 (2009).**
6. Underdal, O.M., Gilbert, H.M., Portyanko, O., Mayes, R.L., Fountain, G.J., Wittliff, W.W. Diagnostic data mining for vehicles. **EP2112495A2 (2009).**

CUSTOMER RELATIONSHIP MANAGEMENT

1. Taylor, J., Roberts, J., Oram, C., Gupta, A., Dreisch, A., Itani, M., Ostrow, J., Parsons, J. Customer relationship management system and method. **US20090070755A1 (2009).**
2. Weinroth, E. Using customer relationship management data non exhibiting unique user identifiers for creating geo statistical representations of the users. **US20090286555A1 (2009).**
3. Mehew, J., Buck, J. System and method utilizing a customer relationship management software application to convert a price quote into an electronic shopping cart. **US20090063290A1 (2009).**
4. Lurie, S. Apparatus and method for online advice customer relationship management. **US20090063246A1 (2009).**
5. Lurie, S. Apparatus and method for online advice customer relationship management. **US7580850 (2009).**

AUTOREGRESSIVE MOVING AVERAGE

1. Taubin, F.A., Bulatnov, S.V. Autoregressive moving average modeling for feedforward and feedback Tomlinson-Harashima precoder filters. **US20090219984A1 (2009).**
2. Thiesson, B., Meek, C.A. Efficient gradient computation for conditional Gaussian graphical models. **US7596475 (2009).**
3. Thiesson, B., Meek, C.A., Chickering, D.M., Heckerman, D.E. Systems and methods for new time series model probabilistic ARMA. **US7580813 (2009).**

4. Ferguson, K.M. Variable passband autoregressive moving average filter. **US7584235 (2009)**.
5. Wolfel, J.K. Methods of information retrieval. **US7499858 (2009)**.

SYSTEM MODELING

1. Soejima, S. Model transmission apparatus and model transmission method. **US20090013025A1 (2009)**.
2. Hartman, E.J., Piche, S., Gerules, M. Method and apparatus for training a system model with gain constraints using a non-linear programming optimizer. **US7624079 (2009)**.
3. Deschrijver, D., Dhaene, T., De Zutter, D. Method and device for generating a model of a multiparameter system. **WO2009049703A1 (2009)**.
4. Berwanger, P.C. Apparatus and method for creating scaled, three-dimensional model of hydraulic system to perform calculations. **US7624002 (2009)**.
5. Deschrijver, D., Dhaene, T., De Zutter D. Method and device for generating a model of a multiparameter system. **EP2051175A1 (2009)**.

COVARIANCE MATRIX

1. Cairns, D.A., Wang, Y.-P., Bjorkegren, H.T. Efficient method for forming and sharing impairment covariance matrix. **US20090023437A1 (2009)**.
2. Porikli, F.M., Tuzel, O. Method for tracking objects in videos using covariance matrices. **US7620204 (2009)**.
3. Jensen, D.J., Courtade, T.A. Digital beamforming method and apparatus for pointing and null steering without calibration or calculation of covariance matrix. **US7570211 (2009)**.
4. Brumitt, B., Shafer, S., Meyers, B. Geometric model database for use in ubiquitous computing. **US7472053 (2009)**.
5. Beadle, E.R., Dishman, J.F. System and method for automatic recovery and covariance adjustment in linear filters. **EP2020766A1 (2009)**.

EIGENVALUE

1. Abe, Y., Shimizu, K. Device and method for estimating the number of arrival signals. **US20090021422A1 (2009)**.
2. Washizawa, T. Regression analysis apparatus and method. **US7610169 (2009)**.
3. Yang, R.E. Eigen-based method for covariance data compression. **US7574057 (2009)**.
4. Chang, T.-C., Tyan, J.J.-K. System and method for efficient feature estimation for medical images. **US7596282 (2009)**.
5. Dangui, V., Digonnet, M.J. F., Kino, G.S. Method and apparatus for modeling the modal properties of optical waveguides. **US7505881 (2009)**.

FORMAL SPECIFICATION

1. Iborra, J., Pastor, O. Automatic software production system. **US20090125546A1 (2009)**.
2. Iborra, J., Pastor, O. Automatic software production system. **US7555742 (2009)**.
3. Young, A.R., Tick, E., Towse, Jr., R.C., Chang, Y., Campbell, R.E., Tse, J.K.-W., Reddy, S.D., Lee, Y.-S., Scowcroft, J. Computer methods and apparatus for optimizing portfolios of multiple participants. **US7613652 (2009)**.
4. Klein, D. Computerized national online parcel-level map data portal. **US7516156 (2009)**.

AGENT INTERACTION

1. Barrett, D.M., Crowell, E., Sebastian, B.J., Waszak, J.P. Computer system input/output management. **US20090259749A1 (2009)**.
2. Huberman, B., Lai, K., Fine, L. System and method for allocating resources in a distributed computational system using proportional share auctions. **US7634430 (2009)**.
3. Gupta, V., Vermeulen, A.H., Wei, E., Jassy, A.R., Bezos, J.P., Krause, D.J., Schappell, D.A. Automatic authorization of programmatic transactions. **US7584152 (2009)**.

RADIO FREQUENCY IDENTIFICATION

1. Trosper, S.T. Radio frequency identification devices, remote communication devices, identification systems, communication methods, and identification methods. **US7602287 (2009)**.
2. Okino, K. Radio communication system, radio communication device, and radio communication method. **WO2009096317A1 (2009)**.
3. Majonen, K. Signal processing in electronic apparatus. **WO2009104087A2 (2009)**.
4. Beadle, E.R. System and method for estimating noise power level in a multi-signal communications channel. **WO2009029628A2 (2009)**.

MOBILE AGENT

1. Raina, M., Ghosh, S.K., Patro, R.K. Routing of mobile agents in a network. **US7468970 (2009)**.
2. Manzano, M.R. System and method for the discovery and usage of local resources by a mobile agent object. **US7614059 (2009)**.
3. Rits, M. A method and a system for securing processing of an order by a mobile agent within a network system. **EP1860816B1 (2009)**.
4. Franck-Uwe, A., Matthias, F., Andreas, K., Morten, S. Advanced mobile IP system employing distributed home agents. **EP2071807A1 (2009)**.

5. Lindem, A.C., Oswal, A.K. Mobile IP bulk registration revocation. **WO2009006229A1 (2009).**

SOFTWARE PIRACY ATTACKS

1. Hughes, A.T., Pearce, D.B., Hardware ID to prevent software piracy. **US7565323 (2009).**
2. Al-Azzawi, J.S. Methods for preventing software piracy. **US20090300772A1 (2009).**
3. Carpenter, T., Abzarian, D., Myers, M., Foster, D.J., Liu, T., Ang, E.T.W. Secure software distribution. **US20090287917A1 (2009).**
4. Hashimoto, M., Haruki, H. Authenticated process switching on a microprocessor. **US7603566 (2009).**
5. Schull, J. System and method for selectively changing parameter settings based on lineage analysis of digital information. **US7555463 (2009).**
6. Guthery, S.B. Analog physical signature devices and methods and systems for using such devices to secure the use of computer resources. **US7475255 (2009).**

STATIC AND DYNAMIC PROTECTION

1. Branigan, J.P., Graveline, A.S., Pring, L.M., Smith, G.C. System and method for swapping tag reads based on statistical analysis of known environment. **US7538676 (2009).**
2. Dadhia, R., Gill, S.S., Samuelsson, A. Method and system for dynamic system protection. **US7523308 (2009).**
3. Viets, R.R., Motes, D.G., Greve, P.B., Herberg, W.W. System and method for controlling access to

documents stored on an internal network. **US7543329 (2009).**

MULTI-AGENT SYSTEM

1. Yong, Y.H., Seok, Y.Y. Agent platform, multi-agent system, and message transmitting/receiving method thereof. **US20090106384A1 (2009).**
2. Abu-Hakima, S., Grigg, K.E. Collaborative multi-agent system for dynamic management of electronic services in a mobile global network environment. **WO2009055893A1 (2009).**
3. Gerber, A., Vierke, G., Gerber, C., Wilhelm, M., Schild, T. Generic AI architecture for a multi-agent system. **US20090204563A1 (2009).**

DISTRIBUTED SYSTEM

1. Traversat, B.A., Saulpaugh, T.E., Duigou, M.J., Slaughter, G.L. Message authentication using message gates in a distributed computing environment. **US7577834 (2009).**
2. Liu, X., Lin, W., Zhang, Z. Predicate checking for distributed systems. **US20090248381A1 (2009).**
3. Satterlee, T.J., Hackenberger, W.F. System and method for the managed security control of processes on a computer system. **US7565549 (2009).**
4. Peck, J.E., Novacek, M., Andrade, H.A., Petersen, N.G., Ranganathan, G., Sierer, B., Pasquarette, J. Network-based system for configuring a programmable hardware element in a modeling system using hardware configuration programs determined based on a user specification. **US7526535 (2009).**