Curriculum vitae of Andrey V.Gavrilov

Was born March, 14, 1952.
Married

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I. Education qualifications.

Got high education in Novosibirsk Institute of Electrical Engineering (now Novosibirsk State Technical University) in 1974. Title of qualification - "System Engineer", major is "Automatic Control Systems", got at 18.06.1974.

Have completed PhD school in 1977. Major is "Computer Systems and Networks". At 25.07.1979 I got PhD in technical science (thesis "The Control of Tasks Stream in Distributed Computer Systems") from Institute of Mathematics of Siberian Branch of Academy of Science of USSR.

II. Employment history.

Current positions:

Associate Professor (docent) in Department of Computer Engineering, Novosibirsk State Technical University. From February, 1, 2015.

Duties:

- preparing and teaching of courses: "Development of Human-Machine Interfaces", "Functional Programming", "Software Technology", "Artificial Neural Networks", "Intelligent Systems and Technology".
- research in Computational Intelligence, Ubiquitous Computing and Intelligent Robotics,
- supervising of graduate master and PhD students in Neural Networks, Intelligent Systems and Intelligent Robotics.

Analist in Motiv Ltd. (Novosibirsk) in part time (from March, 2015).

Head of Research Laboratory of Neuromorphic Technology http://motivnt.ru/laboratory/ in part time (from June, 2015).

Editor of Journal "Open Computer Science" (old name "Central European Journal of Computer Science")

Most recent position:

Associate Professor (docent) in Department of Development of Technology Equipment, Novosibirsk State Technical University. From February, 2008 to January, 2015.

Duties:

Preparing and teaching courses "Informatics", "Information Technologies", "Foundations of programming in C and C++", "Automation of Chemical-Engineering Processes". "Intelligent Systems in Machine Engineering".

Senior Researcher in "Neftegasoptimization" (Moscow) in part time. From January, 2012 to March, 2014.

Duties:

Research and development of neural network based methods and software for short time prediction of traffic in highway.

Visiting Professor in Department of Computer Engineering of Kyung Hee University from September, 1, 2005 to December, 31, 2007.

Duties:
- preparing and teaching courses "Intelligent Systems", "Soft Computing", "Neural Networks and its applications", "Technologies of Expert Systems", "Intelligent Robots", "Artificial Life", "Development of Games", "Machine Learning", "Machine Vision", "Hybrid Intelligent Systems" (4 lectures per week) in English for students from Pakistan, China, Vietnam, Bangladesh, South Korea,
- research in Artificial Intelligence and Ubiquitous Computing,
- supervising of researches of graduate master and PhD students in Ubiquitous Computing Laboratory http://uclab.khu.ac.kr .

Before employment in South Korea:

1) Associate Professor in Department of Computer Engineering of Novosibirsk State Technical University (NSTU) from 1979.

2) CEO (in part time) and general developer of small company "Insycom Ltd." (Intelligent Systems Company) from 1991.

3) Head of Study-Research Laboratory "Hybrid Intelligent Systems" (http://www.insycom.ru) from 1999.

4) Associate Professor in Siberian State Geodesic Academy pluralistically (2003-2005).

Past other positions:

1) In 2003 (21.11 - 14.12. 2003) was invited for joint researches in University of Ulsan (Republic of Korea).

2) Associate professor in part of time of Department of Applied Mathematics and Cybernetics in Siberian State University of Telecommunication and Informatics. Duties: course "Neural Networks", 2001.

3) Lecturer in Novosibirsk State Technical University, Department of Computer Engineering, 1981-1982.

4) Assistant professor in above organization, 1979-1981.

5) Engineer-programmer in Nuclear Physics Institute of Siberian Department of USSR Academy of Sciences from 1977 to August 1979. – Duty: Development of software for production automation in experimental manufacturing.

6) PhD student in Department of Computer Engineering of Novosibirsk Institute of Electrical Engineering, 1974-1977. Theme of the thesis was "Control of task stream in distributed computer systems".

7) The researcher and graduate student in Department of Computer Engineering of Novosibirsk Institute of Electrical Engineering, 1972-1974.

III. Research Interests

- Philosophy of Artificial Intelligence;
- Hybrid Intelligent Systems;
- Artificial Neural Networks and its applications;
- Neuromorphic technology,
- Natural Language Processing and Cognition;
- The architecture of the Hybrid Expert Systems and Shells;
- The methods of Data Mining and Knowledge Discovery;
- Machine learning,
- Cognition Robotics,
- Ubiquitous computing and smart collaborative objects.

IV. Teaching Experience

In Kyung Hee University (South Korea) (from September, 2005 to December, 2007) I touch following subjects for graduate students from different countries in English:
- "Intelligent Systems",
- "Soft Computing",

- "Neural Networks and its applications",
- "Technologies of Expert Systems",
- "Intelligent Robots",
- "Artificial Life",
- "Development of Games",
- "Machine Learning",
- "Machine Vision",
- "Hybrid Intelligent Systems".

Besides I had follow lectures for graduate master and PhD students in Russian:
"Neural Networks", "Natural Language Processing", "Knowledge and Data Bases", "Intelligent Systems", "Hybrid Intelligent Systems".

For undergraduate students I provided follow lectures:
"Informatics", "Data structures and algorithms", "Foundation of programming in C and C++", "Programming in Pascal", "Logical Programming in Prolog (PDC-Prolog)".

V. Skills.

Can use following tools for programming: Delphi, C++ builder, Access, HTML, JavaScript, PHP, PDC Prolog, in 80th years used Assembler of old computers, compatible with PDP-8 and PDP-11. And in 1990 have developed desassembler for microprocessor Z80. In 2008 passed short courses on programming of PLC (Modicon).

Took part in follow projects as head and/or general developer
- System software of local network for real time industrial and scientific applications (1980th years),
  - Was developed for automation in factory "Okside" (Novosibirsk),
- Software for programming and control of transport industrial robots, in particular, for programming by natural language (1985-1987),
  - Was developed for automation in factory "Okside" (Novosibirsk),
- Information system for registration of companies (1992-1993),
  - Some years was used in Administration of Zaelcovski District of Novosibirsk,
- Hardware and software for writing of short phrases by voice in VLSI (1992),
  - Was developed for usage in company "Vega" in Berdsk,
- Shells for development of Expert Systems (1990-2005),
  - Some years were used for teaching in Novosibirsk State Technical University,
- Architecture of Hybrid Expert Systems (1993-1994),
- Expert System for career-guidance (1994-1995),
- Information System for Management of Assurance (1995-1996),
  - This software was used in Leninsk-Kuznecki,
- Toolkit for development of Hybrid Expert Systems (1999-2005)
  - Developed by me (in Insycom Ltd.) toolkit ESWin 1.2-2.1 was sold for using in several universities of Russia: Novosibirsk State Technical University, Siberian State Geodesic Academy (Novosibirsk), Humanitarian University of Trade Unions (S.-Peterburg), Tyumen State University (Tyumen), Krasnoyarsk State University (Krasnoyarsk),
  - It was used for teaching in Kyung Hee University (South Korea)
- Software for Data Mining by Neural Networks (1999-2003),
  - Some years was used for teaching in Novosibirsk State Technical University,
- Software for knowledge testing and creating of tests (1999-2003)
  - Developed by me (in Insycom Ltd.) software Tester 1.2-2.4 was sold for using in several universities of Russia: Novosibirsk State Technical University, Novosibirsk State Pedagogical University, Novosibirsk College of Information Technologies, Siberian Institute of Finance and Banking (Novosibirsk), Novosibirsk Agricultural University, Siberian State Geodesic Academy (Novosibirsk), also in company "Electrosvyaz Inc." (Novosibirsk), in company "Novosibenergo Inc." (Novosibirsk),
- Software for knowledge testing with answers by natural language (1995-1997),
- Software for search of documents by sense using Natural Language Query (2000-2001)

- Was developed for one company of Novosibirsk,
- Was used for teaching in Novosibirsk State Technical University and Kyung Hee University (South Korea)
- Information system for forecasting and control of Novosibirsk hydroelectric power station (1999-2001),
  - Is used for control of Novosibirsk Reservoir in "Novosibenergo Inc."
- Expert System for diagnostics of power system of Novosibirsk area (1999-2002),
  - Was developed for usage in "Novosibenergo Inc."
- Knowledge testing system for distance education in Internet (2002),
  - Was used in Novosibirsk State technical University,
- Remote consultation system for education through Internet (2003),
  - Was used in Novosibirsk State technical University,
- Set of programs and guides to study of neural networks (1999)
  - Was used for teaching in Novosibirsk State Technical University, was used for teaching in Kyung Hee University (South Korea),
- Architecture of Spiking Neural Network (2015),
- Learning of Spiking Neural Networks (2016).

Took part in follow projects (Kyung Hee University, South Korea, 2005-2007) funded by Korean Government:
- "Autonomic Ubiquitous Computing Platform",
- "Autonomic Ubiquitous Middleware Infrastructure",
- "Context-Aware Middleware System for Ubiquitous Systems(CAMUS)",
- "East-West Neo Medical u-Life Care IT Research Center(uLCRC)",

VI. Professional Experience.

Editor of Central European Journal of Computer Science
Guest Editor of Special Issue of Journal of Intelligent & Fuzzy Systems (papers of FSDM-2016).

Session chair in International Conferences:

1. IST-2000, Novosibirsk (Russia), April, 2000.
2. IST-2003, Novosibirsk (Russia), April, 2003.
3. KORUS-2003, Ulsan (Republic of Korea), July, 2003.
4. 1st Workshop on Ubiquitous Computing, Suwon (Republic of Korea), March, 2006.
5. ISNN-2006, Chendu (China), May, 2006.
6. APEIE-2016, Novosibirsk (Russia), October, 2016.

Membership of:
1. Editor of Central European Journal of Computer Science (now Open Computer Science) http://www.versita.com/cejcs
2. International Association of AI (RAAI)
3. Organizing Committee of IST-2001, IST-2003 (Novosibirsk, Russia), APEIE-2016 (Novosibirsk, Russia)
4. Steering Committee of KORUS-2003 (Ulsan, South Korea).
5. Steering Committee of INISTA-2005, INISTA-2007 (iStanbul, Turkey).
6. Program Committee of NISS-2009 (Beijin, China), NISS-2010 (Seoul, Korea), DIHCA-2005 (Daejeon, South Korea), NCM-2009, NCM-2010, IDC-2010 (Seoul, South Korea), ICNIT-2011, NCM-2011 (Gyeonju, South Korea), ICIS-2011, IDCTA-2011 (Busan, South Korea), ICIIP 2013 (Seoul, South Korea), ISSDM 2013 (NISS, ICMIA) (Macao, China), ICT INNOVATIONS 2013 (Macedonia), SETIT 2013 (Chuncin, China), ACIIDS-2014 (Bangkok), ICT-2014 (Macedonia), ACIIDS-2015 (Bali), ICAART-2015 (Lisbon), ICAART-2016 (Italy).ICT Innovations 2016 (Makedonia).

Reviewer: Journals IEEE Transactions on Neural Networks, AISS (Advances in Information Sciences and Service Sciences), Central European Journal of Computer Science, Journal of Pattern Recognition and Intelligent Systems, **Conferences** ICAART-2017, ICT INOOVATIONS 2017, APEIE-2016, FSDM-2016, SETIT-2016, ICAART-2016, ICT INOOVATIONS 2016, EDM-2016, ICAART-2015, ACIIDS-2015, ACIIDS 2014, ICT INOOVATIONS 2014, ICT INOOVATIONS 2013, INISTA-2012, IFOST-2012, ICNIT_2011, INISTA-2011, ICCIT-2010, ERTAI-2010, ICIS-2010, NCM-2010, INISTA-2010, NISS-2010, ICIT-2009, NISS-2009, INISTA-2009, ICACT-2008, IJCNN-2007, INISTA-2007, INISTA-2005.

Supervising:
1. An advising of 26 M.S. dissertations.
2. An advising of 5 PhD students.
4. A co-advising of student research in "Ubiquitous Computing Laboratory" (KHU, Korea) http://uclab.khu.ac.kr (2005-2007).
5. A co-advising of PhD student Uzair Ahmad in KHU successfully defended in 2008 ("Rapid Development of Flexible and Custom-resolution Indoor Location Systems").
6. Found in 1991 and supervised (CEO and main owner) of small company Insycom Ltd. (Intelligent Systems Company) in Novosibirsk dealing with development of AI technologies.
7. An official opponent of 4 PhD dissertations (in Russian).
Found in 2000 and supervised of study-research laboratory "Intelligent Systems" in Novosibirsk State Technical University.
8. Found in 2000 and supervised of study-research laboratory "Intelligent Systems" in Novosibirsk State Technical University.
9. Found in 2015 and supervising of study-research laboratory "Neuromorphic Techologies" in Novosibirsk State Technical University

Invited lectures:
1. An architecture of hybrid control system for robot wheelchair, November, 2003, University of Ulsan (South Korea),
2. Hybrid approach to development of control system of mobile robot dealing with multimodal sensor information, February, 2006, The 26th IRRC Seminar, KAIST (South Korea).
3. Usage of Neural Networks and Hybrid Intelligent Systems in Ubiquitous Computing Systems, September, 2006, Seminar in University of Fukuoka (Japan).
4. Hybrid neural networks based on unsupervised and supervised learning, June, 2007, Seminar in GIST (South Korea).

Awards:
1. Grant of Russian government for research "Architecture of hybrid expert systems" (1993-1994).
2. Diploma of Siberian fair on Development of software for knowledge testing for education (1999).
3. Diploma of 1st degree in Competition of sites for education (NSTU) for development of site of study-research laboratory "Intelligent Systems" (2001).
4. Funding of trip to forum on eHealth Med-e-Tel in Luxemburg (2004).
5. Certificate of Appreciation from Intelligent Robot Research Center of KAIST (Korea) for lecture (2006).
6. Appreciation plaque "for great contribution in growth of Ubiquitous Computing Laboratory" from KHU, South Korea (2007).
7. Award "5 stars award" for high quality software product ExtrEm 1.0 from Soft32Download.com (2008).
8. Funding of trip to 1st Workshop on Networked embedded and control system technologies, Milan (2009).
9. One of 50 top proposals in Contest of Ideas for Skolkovo (Russia, 2011).

VII. Publications
Number of publications – more then 150.
In Scopus: Number of publications = 30, h. index = 7.
In Web of Science h. index = 6

Selected publications:
List of books (in Russian):

1. **Gavrilov A.V.** *Introduction to Operating Systems*. NETI, Novosibirsk, 1981. – 51p.
2. **Gavrilov A.V.** *Data and Knowledge Bases*. NSTU, Novosibirsk, 1988. – 69p.
3. **Gavrilov A.**V., Novitskaya J.V. *Foundation of programming in Turbo-Prolog*. NSTU, Novosibirsk, 1993. – 91p.
4. **Gavrilov A.V. (Ed.)** *Artificial Intelligent Systems*. Collection of papers, NSTU, Novosibirsk, 1993. – 69p.
5. **Gavrilov A.V.** *Hybrid Intelligent Systems*. NSTU, Novosibirsk, 2003. – 162p.

List of publications in International Journals and chapters in books (in English):

1. **Gavrilov A.V.**, Zhiratkov V.I. *Algorithms for real-time management of a distributed computing system working in interactive mode*. Program. Comput. Software 4, 1978. – Pp. 348-352; translation from Programmirovanie 1978, No.5, 62-68 (1978).
2. **Gavrilov A.V.** *An Architecture of Neurocomputer for Image Recognition* / - Neural Networks World, N.1, Prague, 1991. – Pp. 59-60.
3. **Gavrilov A.V.**, Y.-K. Lee, S.-Y. Lee. *Hybrid Neural Network Model based on Multi-Layer Perceptron and Adaptive Resonance Theory*. Verlag, Advances in Neural Networks ISNN-2006, Part 1. LNCS 3971 – Pp. 707-713.
4. Donghai Guan, Weiwei Yuan, **A. Gavrilov**, Sungyoung Lee, Youngkoo Lee and Sangman Han. *Using Fuzzy Decision Tree to Handle Uncertainty in Context Deduction*. Verlag, Computational Intelligence, ICIC-2006, LNAI 4114, 2006. – Pp. 63-72.
5. Weiwei Yuan, Donghai Guan, Sungyoung Lee, Youngkoo Lee, **Andrey Gavrilov**. *Finding Reliable Recommendations for Trust Model*. Verlag, WISE06, LNCS 4255, 2006. – Pp. 375-386.
6. **Andrey V.Gavrilov**, Sungyoung Lee. *Usage of Hybrid Neural Network Model MLP-ART for Navigation of Mobile Robot*. International Conference on Intelligent Computing ICIC'07, China, August, 2007, LNAI 4682. Springer-Verlag, Berlin, Heiderberg, 2007. – Pp. 182-191.
7. Uzair Ahmad, **Andrey V.Gavrilov**, Sungyoung Lee, Young-Koo Lee. *Self-scalable Fuzzy ArtMap for Received Signal Strength Based Location Systems*. "Soft Computing", Vol.12, N.7, February, 2008. – Pp.699-713.
8. Uzair Ahmad, **Andrey V.Gavrilov**, Sungyoung Lee, Young-Koo Lee. *A Modular Classification Model for Received Signal Strength Based Location Systems*. "Neurocomputing", Vol. 71, Issue 13-15, August, 2008. – Pp. 2657-2669.
9. Guan Donghai, Yuan Weiwei, Lee Young-koo, **Gavrilov Andrey**, Lee Sungyoung. *Improving supervised learning performance by using fuzzy clustering method to select training data*. J. Intell. Fuzzy Syst. 19, No. 4-5, 2008. – Pp. 321-334.
10. **Gavrilov A.V**. *Hybrid Intelligent Systems in Ubiquitous Computing*. Chapter in book "Designing Solutions-Based Ubiquitous and Pervasive Computing: News Issues and Trends" (Eds. F. Milton, P. Fernandes), IDEA Publishing Inc., 2010. – Pp. 263-281.

List of publications in Journals (in Russian):

1. **Gavrilov A.V.**, Giratkov V.I. *Algorithms for real-time management of a distributed computing system working in interactive mode*. Programmirovanie 1978, No.5, 62-68 (1978).
2. **Gavrilov A.V.** *Homogeneous computing system in interactive computing*. Izvestia of RAS, Technical Cybernetics, N.5, 1979.
3. **Gavrilov A.V.**, Giratkov V.I. *An algorithms of finding of free computer in distributed computing systems*, Programming, N.4, 1981.
4. **Gavrilov A.V.** *Dialog system for preparing of programs for robot*. Automatyka, Vol.99, Glivice, Poland, 1988, p.173-180.
5. **Gavrilov A.V.** *Using of Prolog for development of Expert Systems*. Automatyka, Vol.100, Glivice, Poland, 1990, p. 43-53.
6. **Gavrilov A.V.**, Gubarev V.V., Jo K.-H., Lee H.-H. *An architecture of hybrid control system of mobile robot*. Nauchny vestnik of NSTU, Novosibirsk, Vol. 2(17), 2004. – Pp. 3-13.
7. **Gavrilov A.V.**, Gubarev V.V., Jo K.-H., Lee H.-H. *An architecture of hybrid control system of mobile robot*. Mechatronics, Automation, Control. N.8, 2004. – Pp. 30-37.
8. **Gavrilov A.**V. *Artificial House-spirit*. – Artificial Intelligence and Decision Making, N.2, 2012. – Pp.77-89.

9. **Gavrilov A.**V. *Artificial Intelligence and Future of Civilization*. Scientific & practical journal "Modern scientific researches and innovations", 2015. № 5 [Electronic journal]. URL: http://web.snauka.ru/en/issues/2015/05/50092
10. **Gavrilov A.**V., Y.V.Novitskaya. Smart Study Laboratory for Atomatization of Laboratory Works. – Computer Tools in Education, 6, 2016. – Pp. 20-31.

List of selected publications in Proceedings of Int. Conferences (only in English):

1. **Gavrilov A.V.** *An Architecture of Neurocomputer for Image Recognition.* -   Latvian Signal Processing International Conference LSPIC-90. - Riga, 1990.
2. **Gavrilov A.V.** *The Combination of Logical and Associative Processes in the Expert Systems.* - Proceedings of Int. Workshop "Soft Computing". - Kazan, 1996.
3. **Gavrilov A.V.**, Kangler V.M. *The use of Artificial Neural Networks for Data Analysis* // The Third Russian-Korean International Symposium on Science and Technology (KORUS-99). - Novosibirsk: NSTU, 1999. - Proceedings/ - Vol.1. - P.257-260; Abstracts. - Vol. 1. - P. 192.
4. **Gavrilov A.V.** *About Knowledge Representation and Processing in Intelligent Systems.* – 4-th Int. Symp. "KORUS-2000", V. 2, Ulsan, 2000. - Pp. 84-87.
5. **Gavrilov A.V.**, Novickaja J.V. *The Toolkit for development of Hybrid Expert Systems.* - 5-th Int. Symp. "KORUS-2001", Tomsk: TPU, 2001. - Proceedings. - Vol.1. - P. 73-75.
6. **Gavrilov A.V.** *The model of associative memory of intelligent system.* - / The 6-th Russian-Korean International Symposium on Science and Technology. Proceedings. - Novosibirsk, 2002. - Vol. 1.- Pp. 174-177.
7. **Gavrilov A.V.**, Kangler V.M., Zaitsev S.A. *Data Analysis Program by means of Neural Networks.* - / The 6-th Russian-Korean International Symposium on Science and Technology. Materials. - Novosibirsk, 2002. - Vol. 3.- P.71.
8. **Gavrilov A.V.** *The principles of action of intelligent systems.* – Proc. Of int.conf. IST-2003. - Novosibirsk, NSTU 2003. - v.3, Pp. 91-94. Modified paper was published in 2007 in "Mind, Consciousness and Language"
9. **Gavrilov A.V.**, Kangler V.M., Zaitcev S.A. *Data analysis program by means of neural networks.* - Proc. Of int.conf. IST-2003. - Novosibirsk, NSTU 2003. - v.3, pp. 87-90.
10. **Gavrilov A.V.** *A combination of Neural and Semantic Networks in Natural Language Processing.* - // Proc. of the 7th Korea-Russia Int. Symp. KORUS-2003, Ulsan, 2003. – Vol. 2, Pp. 143-147.
11. **Gavrilov A.V.**, Gubarev V.V., Jo K.-H., Lee H.-H. *Hybrid Neural-based Control System for Mobile Robot.* – Int Symp. KORUS-2004, Tomsk, 2004. – Vol. 1, Pp. 31-35.
12. **Gavrilov A.V.** *Hybrid Neural Network based on models of Multi-Layer Perceptron and Adaptive Resonance Theory.* - Int Symp. KORUS-2005, Novosibirsk, June, 2005. – Pp. 604-606.
13. **Gavrilov A.V.**, Chistykov N.A. An architecture of the toolkit for development of hybrid expert systems. // Proc. Of the Second IASTED Int. Multi-Conference ACIT-2005, Automation, Control and Applications, Novosibirsk, 2005. – Pp. 116-120.
14. Uzair Ahmad, **Andrey Gavrilov,** Uzra Nasir, Mahrin Iqbal, Seong Jin Cho and Sungyoung Lee. *In building Localization Using Neural Networks.* IEEE International Conference on Engineering of Intelligent Systems (ICEIS 2006). April, 22-23, 2006, Islamabad, Pakistan. – Pp. 36-41.
15. Uzair Ahmad, **Andrey Gavrilov** and Sungyoung Lee. *Modular Multi Layer Perceptron for Location Awareness.* 2006 IEEE World Congress on Computational Intelligence. 2006 International Joint Conference on Neural Networks (IJCNN 2006). July, 16-21, 2006, Vancouver, BC, Canada. – Pp. 3465-3471.
16. **Andrey Gavrilov**, Sungyoung Lee. *An Approach for Invariant Clustering and Recognition in Dynamic Environment.* IEEE Int. Conf. CISSE-2006, In book: Advances and Innovations in Systems, Computing Science and Software Engineering (Ed. Khalet Elleithy). Springer, 2007. – Pp. 47-52.
17. Seong Jin Cho. Uzair Ahmad, **Andrey V.Gavrilov**, Sungyoung Lee, Young-Koo Lee. *Application of Support Vector Machines on Signal Strength Based Localization in Wireless Networks.* Proc. Of Int. Conference on Machine Learning: Models, Technologies & Applications MLMTA'07, World Congress in Computer Science, Computer Engineering, and Applied Computing WORLDCOMP'07, Las-Vegas, 2007. – Pp. 24-30.
18. Donghai Guan, **Andrey V. Gavrilov**, Sungyoung Lee, Young-Koo Lee. *A Novel Hybrid Neural Network for Data Clustering.* Proc. Of Int. Conference on Machine Learning: Models, Technologies & Applications

MLMTA'07, World Congress in Computer Science, Computer Engineering, and Applied Computing WORLDCOMP'07, Las-Vegas, 2007. – Pp. 284-288.

19. Donghai Guan, Weiwei Yuan, Young-Koo Lee, **Andrey Gavrilov** and Sungyoung Lee, "*Combining Multi-layer Perceptron and K-means for Data Clustering with Background Knowledge*", Proceedings of International Conference on Intelligent Computing ICIC'07, China, Qingdao, 2007, August 21-24, CCIS 2, Springer-Verlag, Berlin, Heiderberg, 2007. – Pp. 1220-1226.

20. **Andrey Gavrilov**, Sungyoung Lee. *Unsupervised hybrid learning model (UHLM) as combination of supervised and unsupervised models*. IEEE Int. Conf. on Cybernetic Systems SMC UK&RI , Dublin, 6-7 September, 2007. – Pp. 80-85.

21. **Andrey V.Gavrilov**, Sungyoung Lee. *An Architecture of Hybrid Neural Network based Navigation System for Mobile Robot.* Proceedings of 7th International Conference on Intelligent Systems Design and Applications ISDA'07, Rio-de-Janeiro, Brasil, 22-24 October, 2007. – Pp. 587-590.

22. Donghai Guan, Weiwei Yuan, **Andrey Gavrilov**, Sungyoung Lee and Young-Koo Lee, "*Devising an Information Gain-based Reasoning Engine for Context-aware Ubiquitous Computing Middleware*", Proc. of International Conference on Ubiquitous Intelligence and Computing (UIC 2007, LNCS), Hong Kong, China, July, 2007.

23. Donghai Guan, Weiwei Yuan, Young-Koo Lee, **Andrey Gavrilov** and Sungyoung Lee, "*Data Selection Based on Fuzzy Clustering*", The 12th International Conference on Fuzzy Theory & Technology (JCIS 2007), July 18-24, USA. – Pp. 1231- 1237.

24. Donghai Guan, Weiwei Yuan, Young-Koo Lee, **Andrey Gavrilov** and Sungyoung Lee, "*Activity Recognition Based on Semi-supervised Learning*", The 13th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications, August 21-24, Korea, 2007. – Pp. 469-475.

25. Uzair Ahmad, **Andrey Gavrilov**, Sungyoung Lee, Young-Koo Lee. Context-Aware Fuzzy ArtMap for Received Signal Strength Based Location Systems. Proceedings of International Joint Conference on Neural Networks (IJCNN 2007), Orlando, FL, 12-17 Augest, 2007. – Pp. 2740-2745.

26. Uzair Ahmad, **Andrey Gavrilov**, Sungyoung Lee, Young-Koo Lee. *CompoNet: Programmatically Embedding Neural Networks into AI Applications as Software Components*. Proc. of IEEE Int. Conf. on Tools in Artificial Intelligence ICTAI-2007, Patras, Greece, 29-31 October, 2007. – Pp. 194-201.

27. Uzair Ahmad, **Andrey Gavrilov**, Sungyoung Lee, Young-Koo Lee. A Rapid Development Approach for Signal Strength Based Location Systems. Proc. of the 2007 Int. Conf. on Intelligent Pervasive Computing, Jejucity, Korea, 11-13 October, 2007. – Pp. 39-44.

28. Kh. Tarik-Ul Islam, Jehad Sarkar, Kamrul Hasan, M. Rezwanul Huq, **Andrey V. Gavrilov**, Young-Koo Lee, Sungyoung Lee. A Framework of Smart Objects and their Collaboration in Smart Environment. The 10th Int. Conf. on Advanced Communication Technology ICACT-08, Phoenix Park, Korea, Febrary, 2008. – Pp. 852-855.

29. **Andrey V.Gavrilov**. Emotions and a priori Knowledge Representation in Artificial General Intelligence. In Proc. of Int. Conf. on Intelligent Information and Engineering Systems INFOS-2008. Varna, Bulgaria, June 23-July 03, 2008; in book: "Intelligent Technologies and Applications" of Int. Book Series "Information Science and Computing", ITHEA, Bulgaria. - Pp. 106-110.

30. **Andrey V.Gavrilov.** Usage of Neural Networks in Ubiquitous Computing Systems. The 3rd Int. Forum on Strategic Technologies IFOST-2008, Novosibirsk, June 23-29, 2008.

31. **Andrey V.Gavrilov**. Hybrid Rule and Neural Network based Framework for Ubiquitous Computing. The 4th Int. Conf. on Networked Computing and Advanced Information Management NCM2008, Vol. 2, Gyengju, Korea, September 2-4, 2008. – Pp. 488-492.

32. **Andrey V.Gavrilov**. Context and Learning based Approach to Programming of Intelligent Equipment. The 8th Int. Conf. on Intelligent Systems Design and Applications ISDA'08. Kaohsiung City, Taiwan, November 26-28, 2008. – Pp. 578-582.

33. **Andrey V.Gavrilov**. New Paradigm of Context based Programming-Learning of Intelligent Agent. Proc. of 1st Workshop on Networked embedded and control system technologies. In conjunction with 6th International Conference on Informatics in Control, Automation and Robotics ICINCO-2009, Milan, Italy, 2-5 July, 2009. – Pp. 94-99.

34. **Andrey V. Gavrilov.** Context based Programming-Learning of Robots. 6th International Conference on Ubiquitous Robots and Ambient Intelligence (URAI 2009), Gwangju, South Korea, October 28–31, 2009. – Pp. 806-809.

35. **Andrey V. Gavrilov.** Simulation of Emotions in Cognitive Robotics. 4th International Conference on Cognitive Science, Tomsk, June, 22-26, 2010. – Pp. 40-42.
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