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Irina Khutsishvili

Work Experience:

2010- to present	Ivane Javakhishvili Tbilisi State University, Department of Computer Sciences, Associate Professor
2006 –2010	Ivane Javakhishvili Tbilisi State University, Department of Computer Sciences, Assistant Professor
2000-2006	Ivane Javakhishvili Tbilisi State University, Faculty of Computer Software and Information Technologies, Senior Teacher
1996-2000	Ivane Javakhishvili Tbilisi State University, Faculty of Computer Technologies, Laboratory Senior Assistant
1974-1996	Ivane Javakhishvili Tbilisi State University, Laboratory of the Physical Cybernetics, the Engineer-Mathematician- Programmer

Education:

2006	PhD, The Degree of a Candidate of Physics & Mathematics 05.13.11 Sciences - Mathematical maintenance and the software of computers, systems, complexes and networks, N. Muskhelishvili Institute of Computing Mathematics of Georgian Academy of Sciences
1977	University Diploma in Applied Mathematics (Mathematical support for automated control systems), Ivane Javakhishvili Tbilisi State University

Teaching Courses:

Basics of Programming (C++); Object Oriented Programming 1 (C++); Comparative Study of Programming Languages; Basics of Programming (C); STL: Containers and Universal Algorithms; Practical classes and labs with the following Programming Languages: Assembler, Pascal, Delphi, Visual C++; Databases designing; Local Networks and Internet; Introduction to Algorithms Theory; Mathematical basics of decision-making; Software Technologies for Expert Systems developing.

Research Interests:

- Decision Support Systems - design, mathematical modeling and software development issues,
- Soft-computing methodologies in investment project management,
- Fuzzy methodologies in intelligent decision support systems,
- Fuzzy approach in multi-criteria (multi-attribute) group decision-making problems,
- Fuzzy aggregation operators in decision making and expert knowledge engineering,
- Programming techniques and modern Programming Languages,
- Algorithms, Optimization methods.

Research Projects:

1. 2018 – 2020, SRNSF – Shota Rustaveli National Science Foundation, project # FR17_184, “Study of rare processes at ATLAS experiment of Large Hadron Collider (Run2) at CERN”, Basic Research Staff - Programming, Data Analysis.
2. 2015–2016, ISTC – The International Science and Technology Center, project # G-2098, “The Search for and Study of New Physics Beyond the Standard Model at ATLAS Experiment of Large Hadron Collider (RUN2) at CERN”, Basic Research Staff - Programming, Data Analysis.
3. 2012 – 2015, SRNSF – Shota Rustaveli National Science Foundation, project #13/03, “The search for the signals of the new physics at ATLAS experiment”, Basic Research Staff - Programming, Data Analysis.
4. 2013 – 2016, SRNSF – Shota Rustaveli National Science Foundation, project # 31/44, “Study of New Physics Effects in the FCNC Inspired Processes at LHC ATLAS”, Basic Research Staff - Programming, Data Analysis.
5. 2013-2014, SRNSF – Shota Rustaveli National Science Foundation, project code DO/140/4-102/13, “Decision making aggregation operators and schemes in fuzzy uncertainty environment”, Supervisor of the Phd Student.

Selected Publications:

1. Gia Sirbiladze, Irina Khutsishvili, Otari Badagadze, Gvantsa Tsulaia, Associated Probability Intuitionistic Fuzzy weighted Operators in Business Start-up Decision Making, Iranian Journal of Fuzzy Systems, Vol. 15, No. 5, (2018) pp. 1-25.
2. Gia Sirbiladze, Irina Khutsishvili, Bidzina Midodashvili, Associated immediate probability intuitionistic fuzzy aggregations in MCDM, Computers & Industrial Engineering, 123 (2018) 1–8.
3. Koba Gelashvili, Irina Khutsishvili, Luka Gorgadze, Lela Alkhazishvili, Speeding up the convergence of the Polyak’s Heavy Ball algorithm, Transactions of A. Razmadze Mathematical Institute, Volume 172, Issue 2, August 2018, Pages 176-188.
4. Gia Sirbiladze, Irina Khutsishvili, Otari Badagadze, Mikheil Kapanadze, More Precise Decision-Making Methodology in the Temporalized Body of Evidence. Application in the Information Technology Management, International Journal of Information Technology & Decision Making, Vol. 15, No. 6 (2016): pp. 1469-1502.
5. Gia Sirbiladze, Irina Khutsishvili, Otari Badagadze, New Fuzzy Probabilistic Aggregation Operator in the Information System Implementation Management Problem, Bulletin of the Georgian National Academy of Sciences, Vol. 10, No. 2 (2016): pp. 59-66.
6. Gia Sirbiladze, Koba Gelashvili, Irina Khutsishvili, Anna Sikharulidze, Temporalized Structure of Bodies of Evidence in the Multi-Criteria Decision-Making Model, International Journal of Information Technology & Decision Making, Vol. 14, No. 03, 2015, pp. 565-596.
7. Irina Khutsishvili, Gia Sirbiladze and Gvantsa Tsulaia, Hesitant Fuzzy MADM Approach in Optimal Selection of Investment Projects, EPiC Series in Computer Science Volume 36 - Proceedings of the first Global Conference on Artificial Intelligence (GCAI 2015), Tbilisi, Georgia, October 16-19, 2015, 151-162.
8. Irina Khutsishvili, Gia Sirbiladze and Bezhan Ghvaberidze, TOPSIS based Hesitant Fuzzy MADM for Optimal Investment Decisions, Recent Advances in Systems - Proceedings of the 19th International Conference on Systems (part of CSCC '15), Zakynthos Island, Greece, July 16-20, 2015, 119-124.
9. K. Gelashvili, I. Khutsishvili, P. Qarchava, Unconstrained minimization test functions collection, implemented in C++, 2015, FENS eprints – TSU. <http://eprints.tsu.ge/234/>.
10. Gia Sirbiladze, Irina Khutsishvili, Bezhan Ghvaberidze, Multistage Decision-Making Fuzzy Methodology for Optimal Investments Based on Experts’ Evaluations, European Journal of Operational Research, Volume 232, Issue 1, 2014, pp. 169–177.

11. Irina Khutsishvili, Gia Sirbiladze, A Multiple-Attributes Decision Making in Hesitant Fuzzy Environment: Application to Evaluation of Investment Projects, Georgian Electronic Scientific Journal: Computer Science and Telecommunications, No.3(43), 2014, 47-53.
12. I. Khutsishvili, G. Sirbiladze, B. Ghvaberidze, Possibilistic Aggregations in the Investment Decision Making, World Academy of Science, Engineering and Technology International Journal of Mathematical, Computational, Physical and Quantum Engineering, Vol.8, No.10, 2014, 1326 – 1330.
13. G. Sirbiladze, M. Kapanadze, A. Sikharulidze, I. Khutsishvili, B. Ghvaberidze, Constructions of the Temporalized Body of Evidence in Non-Probabilistic Theory of Utility, Georgian International Journal of Science and Technology, Volume 6 Issue 1, 2013, 73-82.
14. K. Gelashvili, L. Alkhazishvili, I. Khutsishvili, N. Ananiaishvili, On the modification of heavy ball method, Proceedings of A. Razmadze Mathematical Institute, 161 (2013), 83-95.
15. G. Sirbiladze, I. Khutsishvili, A. Sikharulidze, B. Ghvaberidze, Possibilistic Technology for Evaluation of Credit Risks of Investment Projects, Proceedings of the 1st WSEAS International Conference on Information Technology and Computer Networks (ITCN '12), Vienna, Austria, 2012, 61–66.
16. G.Sirbiladze, I.Khutsishvili, B.Ghvaberidze, Fuzzy Modeling of Minimal Crediting Risks in Investment Decisions, Proceedings of the 14th WSEAS International Conference on AUTOMATIC CONTROL, MODELLING and SIMULATION (ACMOS '12), Recent Researches in Automatic Control and Electronics, Saint Malo & Mont Saint Michel, France, 2012, pp. 29-36.
17. G.Sirbiladze, I.Khutsishvili, B.Ghvaberidze, On the New Multistage Fuzzy Technology to Investment Decisions, Proceedings of the 6th International Conference on Application of Information and Communication Technologies (AICT2012), Tbilisi, Georgia, October 17-19, 2012, 313–317.
18. G.Sirbiladze, I.Khutsishvili, A.Sikharulidze, K.Gelashvili, Temporalized Belief Structure on Expert Knowledge Valuations: Application in A. Kaufmann's Theory of Experts (Book Chapter), In Informational and Communication Technologies – Theory and Practice: Proceedings of the International Scientific Conference “Information and Computer Technologies, Modelling, Control” (ICTMC -2010) Devoted to the 80th Anniversary of I.V. Prangishvili, 2011, NOVA Publishers.
19. Gia Sirbiladze, Irina Khutsishvili and Pridon Dvalishvili, Decision Precising Fuzzy Technology to Evaluate the Credit Risks of Investment Projects, Proceedings of the IEEE 10th International Conference on Intelligent Systems Design and Applications (ISDA'10), Session – Fuzzy Logic Based Applications, Cairo, Egypt, 2010, pp. 103-108.
20. G.Sirbiladze, I.Khutsishvili, Combined decision precising fuzzy technology for credit risk evaluation of bank investments, The Third International Conference "Problems of Cybernetics and Informatics" (PCI'2010), September 6-8, 2010, Baku, Azerbaijan., Vol. #3, Section #6 - “Decision Making for Social-Economic Systems”, pp. 193 – 196.
21. I. Khutsishvili, The Combined Decision Making Technology based on the Statistical and Fuzzy Analysis and its Application in Forecast's Modeling, WSEAS TRANSACTIONS on SYSTEMS, Issue 7, Volume 8, July 2009, pp. 891-901.
22. I. Khutsishvili, G. Sirbiladze, Decision Support's Precising Technology in the Investment Project Risk Management, Proceedings of the 11th WSEAS International Conference on AUTOMATIC, CONTROL, MODELLING and SIMULATION (ACMOS '09), Istanbul, Turkey, 2009, 303-311.
23. I. Khutsishvili, Statistical Method of Fuzzy Grades' Analysis with the great Number of Activities, Georgian Electronic Scientific Journal: Computer Science and Telecommunications, 2(16), 2008, 32-39, (In Russian).

Presentations at Scientific Conferences (over the last 6 years):

1. 2018, May 19-21, Prague, Czech Republic, Institute for Natural Sciences and Engineering – INASE, The 2018 International Conference on Neural Networks - Fuzzy Systems (NN-FS 2018), „Trapezoidal Hesitant Fuzzy TOPSIS Based Facility Location Selection Problem“, Irina Khutsishvili and Gia Sirbiladze. <http://www.inase.org/conferences/2018/prague/Program.pdf>.
2. 2017, May 14-15, Amsterdam, The Netherlands, World Academy of Science, Engineering and Technology (WASET), 19th International Conference on Operations Research and Fuzziology – ICORF 2017, „Triangular Hesitant Fuzzy TOPSIS Approach in Investment Projects Management“, Irina Khutsishvili, <http://waset.org/conference/2017/05/amsterdam/ICORF>.
3. 2016, September 5–9, Batumi, Georgia, VII International Joint Conference of Georgian Mathematical Union & Georgian Mechanical Union dedicated to 125-th birthday anniversary of academician N. Muskhelishvili, „On the MADM Problem Based on TOPSIS with Triangular Hesitant Information“, Irina Khutsishvili, http://www.gmu.ge/Batumi2016/index_Geo.html.
4. 2015, July 16-20, Zakynthos Island, Greece, World Scientific and Engineering Academy and Society (WSEAS), The 19th International Conference on Circuits, Systems, Communications and Computers (CSCC 2015), „TOPSIS Based Hesitant Fuzzy MADM for Optimal Investment Decisions“, Irina Khutsishvili, Gia Sirbiladze and Bezhan Ghvaberidze, <http://www.inase.org/library/2015/zakynthos/SYSTEMS.pdf>.
5. 2014, October 27-28, Barcelona, Spain, World Academy of Science, Engineering and Technology, 16th WASET International Conference on Fuzzy Systems and Neural Computing - ICFSNC 2014, „Possibilistic Aggregations in the Investment Decision Making“, I. Khutsishvili, G. Sirbiladze and B. Ghvaberidze, <http://waset.org/conference/2014/10/barcelona/ICFSNC>.
6. 2014, October 27-28, Barcelona, Spain, World Academy of Science, Engineering and Technology, 16th WASET International Conference on Fuzzy Systems and Neural Computing - ICFSNC 2014, “Two Stage Fuzzy Methodology to Evaluate the Credit Risks of Investment Projects”, I. Khutsishvili, G. Sirbiladze and O. Badagadze, <http://waset.org/conference/2014/10/barcelona/ICFSNC>.
7. 2013, July 1-4, Rome, Italy, Association of European Operational Research Societies, 26th European Conference on Operational Research - EURO-INFORMS 2013, „New Possibilistic Aggregations for Optimal Valuation of Credit Risks of Investment Projects“, Irina Khutsishvili and Gia Sirbiladze, <http://en.uniroma1.it/notizie/euro-informs-2013-joint-international-meeting> (page 271).
8. 2012, November 10-12, Vienna, Austria, World Academy of Science, Engineering and Technology (WASET), The 1st WSEAS International Conference on Information Technology and Computer Networks - ITCN'12, “Possibilistic Technology for Evaluation of Credit Risks of Investment Projects”, Irina Khutsishvili, <http://www.wseas.us/conferences/2012/vienna/itcn/>
9. 2012, April 2-5, Saint Malo & Mont Saint Michel, France, World Scientific and Engineering Academy and Society (WSEAS), The 14th WSEAS International Conference on Automatic Control, Modelling and Simulation – ACMOS'12, Fuzzy Modeling of Minimal Crediting Risks in Investment Decisions, Irina Khutsishvili, <http://www.wseas.us/conferences/2012/france/acmos/>
10. 2012, October 17-19, Tbilisi, Georgia, IEEE & Tbilisi State University, The 6th International Conference on Application of Information and Communication Technologies – AICT2012, “On the New Multistage Fuzzy Technology to Investment Decisions”, Irina Khutsishvili, Gia Sirbiladze and Bezhan Ghvaberidze, <http://www.aict.info/2012/>

Other activities:

- Georgian International Journal of Science and Technology – Editor of Subsection “Intelligent systems and computational intelligence, systems and technologies of information security”.
- Reviewer in the Elsevier Journals: European Journal of Operational Research and Transactions of A. Razmadze Mathematical Institute.

- Head of the Quality Assurance service at the Computer Sciences Department.
- Supervisor of Doctoral and Masters' Theses, as well as of Bachelors' Reports at the Scientific Conferences.
- Secretary of the sectoral Dissertation Commission at the Computer Science Department.
- Secretary of the Scientific Seminar at the Computer Science Department.
- Editor of the International Conferences Proceedings:

 - Proceedings of the 3rd WSEAS International Conference on Computational Intelligence (CI '09);
 - Proceedings of the European Computing Conference (ECC'09).

- The member of the International Conferences Organizing Committees:

 - The 3rd WSEAS International Conference on Computational Intelligence (CI '09);
 - European Computing Conference (ECC'09).

- The member of Organizing Committee of the Scientific conference "Computing 2008" dedicated to the 90th anniversary of the Ivane Javakhishvili Tbilisi State University.