Ali Shakiba

Contact Information

Department of Computer Science
Faculty of Mathematical Sciences
Vali-e-Asr University of Rafsanjan
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Research Interests

Uncertain Information Processing, Cryptographic Algorithms, Data Privacy, Big Data Analysis.

Education

Yazd University

Ph.D. in Computer Science, 2012-2016

- Dissertation Topic: S-approximation and its applications to information processing
- Supervisor: Prof. M. R. Hooshmandasl
- Advisors: Prof. B. Davvaz & Prof. S. A. Shahzadefazely

M.Sc. in Computer Science, 2010-2012

- Thesis Topic: An Overview of Generalized Quantum Turing Machine and Computational Complexity
- Supervisor: Prof. M. R. Hooshmandasl
- Advisor: Prof. S. A. Shahzadefazely
- Ranked first among MSc students of Computer Science

Shahid Bahonar University of Kerman

B.Sc. in Computer Science, 2006-2010

- Project Title: Classical Information Retrieval Models
- Supervisor: Prof. H. Sanatnama

Journal Publications

1. Shakiba, A., Hooshmandasl, M., Davvaz, B., and Shahzadeh Fazeli, S. A. S-approximation spaces: A fuzzy approach. *Iranian Journal of Fuzzy Systems 14*, 2 (2017), 127–154.
2. Shakiba, A., and Hooshmandasl, M. R. Data volume reduction in covering approximation spaces with respect to twenty-two types of covering based rough sets. *International Journal of Approximate Reasoning 75* (2016), 13–38.
3. Shakiba, A., and Hooshmandasl, M. R. Neighborhood system S-approximation spaces and applications. *Knowledge and Information Systems 49*, 2 (2016), 749–794.
4. Shakiba, A., Hooshmandasl, M. R., Davvaz, B., and Fazeli, S. A. S. An intuitionistic fuzzy approach to S-approximation spaces. *Journal of Intelligent & Fuzzy Systems 30*, 6 (2016), 3385–3397.
5. Shakiba, A., Hooshmandasl, M. R., and Meybodi, M. A. Cryptanalysis of multiplicative coupled cryptosystems based on the chebyshev polynomials. *International Journal of Bifurcation and Chaos 26*, 07 (2016), 1650112.
6. Heydari, M., Hooshmandasl, M. R., Shakiba, A., and Cattani, C. Legendre wavelets Galerkin method for solving nonlinear stochastic integral equations. *Nonlinear Dynamics 85*, 2 (2016), 1185–1202.
7. Heydari, M., Hooshmandasl, M. R., Shakiba, A., and Cattani, C. An efficient computational method based on the hat functions for solving fractional optimal control problems. *Tbilisi Mathematical Journal 9*, 1 (2016), 143–157.

8. Shakiba, A., and Hooshmandasl, M. R. S-approximation spaces: a three-way decision approach. *Fundamenta Informaticae 139*, 3 (2015), 307–328.
9. Hooshmandasl, M. R., Shakiba, A., Goharshady, A., and Karimi, A. S-approximation: a new approach to algebraic approximation. *Journal of Discrete Mathematics 2014* (2014).

Conference Publications

1. Shakiba, A. Differentially Private Fuzzy C-Means Clustering Algorithms for Fuzzy Datasets. In *6th Iranian Joint Congress on Fuzzy and Intelligent Systems (17th Conference on Fuzzy Systems and 15th Conference on Intelligent Systems) at Shahid Bahonar University of Kerman* (2018).
2. Hashemipour, M., Hooshmandasl, M., and Shakiba, A. On the complexity of the outer-connected bondage and the outer-connected reinforcement problems. In *10th Conference on Graph Theory and Algebraic Combinatorics at Yazd University* (2018).
3. Hooshmandasl, M. R., Meybodi, M. A., Goharshady, A., and Shakiba, A. A combinatorial approach to certain topological spaces based on minimum complement s-approximation spaces. In *8th International Seminar on Geometry and Topology at Amirkabir University of Technology* (2016).
4. Shakiba, A. and Hooshmandasl, M. R. Generalized Quantum Turing Machines and Satisfiability Problem. In *2nd National Conference on Software Engineering at University of Lahijan* (2012).
5. Shakiba, A., Hooshmandasl, M. R. and Meybodi, M. A. Multiplicative Coupled Public Key Schemes. In *9th ISC's International Conference on Information Security and Cryptography at University of Tabriz* (2012).
6. Meybodi, M. A., Hooshmandasl, M. R. and Shakiba, A. A Public Key Cryptographic Scheme by Invertible Mappings. In *9th ISC's International Conference on Information Security and Cryptography at University of Tabriz* (2012).

Unpublished Works

1. Shakiba, A. A Public-key Chaotic Color Image Encryption Scheme based on the Chebyshev Mappings.
2. Shakiba, A. The Combination of S-approximation Spaces to Deal with Distributed Uncertainty.
3. Hashemipour, M., Hooshmandasl, M., and Shakiba, A. On outer-connected domination for graph products. *arXiv preprint arXiv:1708.00188* (2017).
4. Rajaati, M., Hooshmandasl, M. R., Dinneen, M. J., and Shakiba, A. On fixed-parameter tractability of the mixed domination problem for graphs with bounded tree-width. *arXiv preprint arXiv:1612.08234* (2016).
5. Rajaati, M., Sharifani, P., Shakiba, A., Hooshmandasl, M., and Dinneen, M. An efficient algorithm for mixed domination on generalized series-parallel graphs. *arXiv preprint arXiv:1708.00240* (2017).
6. Meybodi, M. A., Hooshmandasl, M.R., Sharifani, P. and Shakiba, A. On the k-rainbow domination in graphs with bounded tree-width.

Workshops & Talks

Doing & Managing Research in Computer Science with Modern Tools: Narration of a Personal Experience, VRU, Planned to be given on May, 2018.

Scientific Typesetting using LaTeX and friends, VRU, 2018.

How do I use the HPC facilities at the VRU?, VRU, 2017.

GNU/Linux and bash scripting for Physicists, Yazd University, 2015

Adiabatic Quantum Computers Meet Optimization Problems, Graduate University of Advanced Technology, 2012.

Teaching Experience

Spring	2018	Secure Computing, Data Mining, Operating Systems, Introduction to Computer Programming for Physics Students (Fortran 90) at Vali-e-Asr University of Rafsanjan
Fall	2017	Secure Computing, Theory of Computer Science (Graduate Course), Introduction to Computer Programming for Physics Students (Fortran 90) at Vali-e-Asr University of Rafsanjan
Spring	2017	Data Mining, Introduction to Computer Programming for Physics Students (Fortran 90) at Vali-e-Asr University of Rafsanjan
Fall	2016	Introduction to Computability, Introduction to Computer Programming for Physics Students (Fortran 90), Theory of Computer Science (Graduate Course) at Vali-e-Asr University of Rafsanjan
Fall	2015	Principles of Computer Systems at Yazd University
Spring	2014	Introduction to Mathematical Softwares at Yazd University
Fall	2013	Fundamentals of Computer Programming (C++) at Yazd University

Honors

- Ranked 24^{th} in National Entrance Exam for PhD in Computer Science
- Graduated MSc in Computer Science with 1^{st} Rank from Yazd University
- Ranked 1^{st} in the "Practical Abilities in Computer" competition - Province Round (Kerman) while studying at High School
- Honorable Mention in the "Practical Abilities in Computer" competition - National Round while studying at High School

Academic Positions

Director of the High Performance Computing Center at the Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran - Since June 2017

Member of the Graduate Studies Committee at the Faculty of Mathematical Sciences, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran - Since September 2017

Member of the International Affairs Committee at the Faculty of Mathematical Sciences, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran - Since September 2017

Assistant Professor at the Department of Computer Science, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran - Since September, 2016

Research Assistant at the Laboratory of Quantum Information Processing, Yazd University, Yazd, Iran - Since June, 2012

Academic Services

Reviewer for the AMS Mathematical Reviews since November 2016

Reviewer for IEEE Transactions on Fuzzy Systems, Cogent Mathematics and Journal of Computational Methods in Sciences and Engineering

Reviewer for International ISC Conference on Information Security and Cryptology'13,'14,'16 and CEITCONF'18.

Memberships in Academic Societies

Association for Computing Machinery (ACM), Since 2014

International Rough Set Society (IRSS), Since 2014

Iranian Mathematical Society, Since 2017

Society for Industrial and Applied Mathematics (SIAM), 2016-2016

Institute of Electrical and Electronics Engineering (IEEE), 2014-2016

Iranian Fuzzy System Society, 2014-2016

Relevant Skills

Language Proficiency:	Persian, English
Programming Experience:	Python 2.x, Java 7, C++, Fortran 90
Professional Softwares:	MATLAB, Maple

In general, I have relatively extensive experience in writing and debugging high performance programs using OpenMP, Intel MPI and Apache Ecosystem.

References

Prof. M.R. Hooshmandasl
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Prof. B. Davvaz
Professor of Mathematics at Yazd University
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Prof. F. Maalek-Ghaini
Professor of Mathematics at Yazd University
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Prof. M.R. Heydarian
Assistant Professor and Dean of the Department of Computer Science at Vali-e-Asr University of Rafsanjan
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Prof. M. Keshavarzi
Assistant Professor of Computer Science and Dean of the Faculty of Mathematical Sciences at Vali-e-Asr University of Rafsanjan
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Prof. S.M. Sabbagh Jafari
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