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Personal Information

- First Name: Bentol Hoda
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- Work Address: Computer Engineering Dept., Iran University of Science and Technology, Narmak, 1684613114, Tehran, Iran.
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Research Interest

- Evolutionary Computations
- Stochastic Optimization
- Statistical Pattern Recognition
- Machine Learning
- Computational Biology
- Data Mining
- Bioinformatics
- Graphical Models
- Metaheuristics

Education

- Ph.D. : Computer Engineering, Artificial Intelligence, Iran University of Science and Technology (IUST), Tehran, Iran, (2008-now). (GPA = 3.82 out of 4)
- M.Sc. : Computer Engineering, Artificial Intelligence, Iran University of Science and Technology (IUST), Tehran, Iran, (2005-2007). (GPA = 3.2 out of 4)
- B.Sc. : Computer Engineering, Azad University of Mashhad, Mashhad, Iran, (2000-2004). (GPA = 3.2 out of 4)
- College (1 year) and High School Diploma: Mathematics and Physics, SAMA High School, Mashhad, Iran, (1996-2000). (GPA = 3.94 out of 4)

Honors &

- Best student award in Iran University of Science and Technology. (2010)
- Best student award in Iran University of Science and Technology. (2009)

Awards

- Best All Women Team in The 2003 ACM Asia Programming Contest – Tehran- Asia Regional Contest.
- Gold Medal in Basketball Tournaments, Khorasan. (1998)
- Best student award in college and all three years of high school. (1996-2000)
- Honorary award for being an executive and technical committee member of IAUM-Collegiate Coding Challenge (IAUM-CCC), Azad University of Mashhad, Mashhad. (2004)

Publication

- **2013: H. Helmi**, Adel Torkaman Rahmani, Martin Pelikan : Factor Graph based Factorization Distribution Algorithm. ACM SIGEVO Genetic and Evolutionary Computation Conference (GECCO-2013), ACM Press: in press.
- **2013: H. Helmi**, Adel Torkaman Rahmani, Martin Pelikan : Factor Graph based Factorization Distribution Algorithm: SCOMAS Technical Report No. 2013001.
- **2012: H. Helmi**, Martin Pelikan, Adel Torkaman Rahmani: Linkage learning using the maximum spanning tree of the dependency graph. ACM SIGEVO Genetic and Evolutionary Computation Conference (GECCO-2012), ACM Press, 1429–1430.
- **2012: H. Helmi**, Martin Pelikan, Adel Torkaman Rahmani: Linkage learning using the maximum spanning tree of the dependency graph. MEDAL Technical Report No. 2012005.
- **2011: H. Parvin, H. Helmi**, B. Minaie, H. Alinejad, H. Shirgahi, Linkage learning based on differences in local optimums of building blocks with one optima”, International Journal of the Physical Sciences Vol. 6(14), pp. 3419–3425, 18 July, 2011
- **2011: H. Parvin, B. Minaei, B. H. Helmi** “An Innovative Linkage Learning Based on Differences in Local Optimums”, CISIS 2011, p. 285-292
- **2011: H. Parvin, B. Minaei, A. Beigi, B. H. Helmi** “Classification Ensemble by Genetic Algorithms”, ICANNGA 2011, p. 391-399
- **2010: A. Nikanjam, H. Sharifi, B. H. Helmi**, A. T. Rahmani, "A new DSM clustering algorithm for linkage groups identification ", In GECCO 2010, Proceedings, Portland, Oregon, USA, July 7-11, 2010. ACM 2010, ISBN 978-1-4503-0072-5
- **2010: A. Nikanjam, H. Sharifi, B. H. Helmi**, A. T. Rahmani, "Enhancing the efficiency of genetic algorithm for identifying linkage groups using DSM clustering", 2010 *IEEE* World Congress on Computational Intelligence, Centre Convencions Internacional De Barcelona, Barcelona, Spain, July 18-23
- **2009: H. Karshenas, A. Nikanjam, B. H. Helmi**, A. T. Rahmani, “Combinatorial effects of local structures and scoring metrics in bayesian optimization algorithm”. Genetic and Evolutionary

Computation Conference, GEC Summit 2009, Proceedings, Shanghai, China, June 12-14, 2009. ACM 2009, ISBN 978-1-60558-326-6, 263-270

- **2009:** H. Karshenas, A. Nikanjam, **B. H. Helmi**, A. T. Rahmani, "Model accuracy for hierarchical problems", IEEE International Conference on Intelligent Computing and Intelligent Systems, 2009. ICIS 2009. 10.1109/ICICISYS.2009.5358041
- **2009:** F. Asdaghi, **B. Hoda Helmi**, Adel T. Rahmani, "Document Classification using AIS based detectors", 3rd Iranian Data Mining Conference, Amir Kabir University, Tehran, Iran. (In Persian)
- **2008:** N. Helmi, **B. H. Helmi**, "Speech Recognition with Fuzzy Neural Network for Discrete Words", Fourth International Conference on Natural Computation, 2008. ICNC '08. 10.1109/ICNC.2008.666
- **2008:** **B.H. Helmi**, A. T. Rahmani, "An AIS algorithm for Web usage mining with directed mutation", IEEE Congress on Evolutionary Computation, 2008. CEC 2008. (IEEE World Congress on Computational Intelligence). 10.1109/CEC.2008.4631220
- **2008:** **B. H. Helmi**, Adel Torkaman Rahmani, "EIN-WUM: an AIS-based algorithm for web usage mining". Genetic and Evolutionary Computation Conference, GECCO 2008, Proceedings, Atlanta, GA, USA, July 12-16, 2008 2008
- **2007:** **B. H. Helmi**, A. T. Rahmani, N. Helmi, "An Evolutionary Control Model for a Generic Multiagent System Using Artificial Immune System", First Congress of Fuzzy and Intelligent Systems, Ferdowsi University, Mashhad, Iran
- **2007:** **B. H. Helmi**, A. T. Rahmani, "Image Segmentation based on a new AIS-based texture feature", 1st Iranina Data Mining Conference, Amir Kabir University, Tehran, Iran (In Persian)
- **2007:** **B. H. Helmi**, E. Adeli M., N. Mozayani, "Ensemble of Evolved Neural Networks with Augmenting Topology and Feature Selection" In the Proceeding of 15th Iranian Conference on Electrical Engineering, May 12-15, 2007, Iran Telecommunication Research Center, Tehran, Iran, Pages 152-157, (In Persian)

Thesis, Thesis Proposal and Seminars

- **2010:** Learning Linkage in Evolutionary Algorithms to Solve Optimization Problems with Multivariate Interactions. (PhD Thesis Proposal)
- **2007:** Association Rule Mining Based on Artificial Immune Systems. (M.Sc. thesis)
- **2006:** Artificial Immune Systems and their applications. (M.Sc. seminar)

<h2>Technical Skills</h2>	<ul style="list-style-type: none"> • 2004: WAP (Wireless Application Protocol). (B.Sc. thesis) • C/C++, Pascal, Qt, C#, Java, Assembly(x86), Python, Prolog, MPI, Matlab • CGI (C++, Perl, Python), PHP, HTML, Java script. • MS SQL Server • MS Windows, Linux • Classic Algorithms and Data Structures • Operating Systems Design, Implementation and Security • Classic and Modern Artificial Intelligence • Evolutionary Algorithms • Data Mining
<h2>Teaching Experiences</h2>	<ul style="list-style-type: none"> • C++ Programming • Discrete mathematics • Operating System • Artificial Intelligence • Parallel Programming (using Message Passing Interface) • Web Programming • Pascal Programming
<h2>Experiences & Projects</h2>	<ul style="list-style-type: none"> • Algorithm designer and developer: Rahbord Taradod Farda Company. Project: Designing public transportation network for the city of Tehran by EDAs. (2013), Tehran, Iran. • Visiting Research Scholar: University of Missouri- St. Louis. Project: Efficiency enhancement for model-directed optimizers and other stochastic optimization techniques (2011-2012) • Software designer: Iran Carpool Project- Rahbord Taradod Farda Company. (2010), Tehran, Iran. • Software designer: Rahbord Taradod Farda Company. Project: Iran Bazaar Traffic Solution (2010-2011), Tehran, Iran. • Algorithm designer and developer: Iran University of Science and Technology. Project: Ensemble of neural network classifiers. (2005) • Algorithm designer and developer: Iran University of Science and Technology. Project: Image Segmentation by texture using Artificial Immune System.(2006) • Algorithm designer and developer: Iran University of Science and Technology. Project: Web Usage Mining by Artificial Immune Networks. (2006-07) • Algorithm designer and developer: Iran University of Science and Technology. Project: Text Classification by Artificial Immune System. (2008-09) • Algorithm designer and developer: Shariaty University. Project: Dormitory Management Software. (2010)
<h2>Membership</h2>	<ul style="list-style-type: none"> • Missouri Estimation of Distribution Algorithms Laboratory (MEDAL). (December 2010 – December 2011) • IEEE student member. (January 2008 – 2012)

	<ul style="list-style-type: none"> • IEEE women. (2010) • IEEE Communication Society Member. (January 2008 – 2012) • ACM student member (2003-2004) • SIGEVO (ACM Special Interest Group on Genetic and Evolutionary Computation.) member. (March 2008-present) • ARTIST (Network for Artificial Immune Systems) member. (2007-present) • Member of Scientific and Technical Committee, 1st IAUM Collegiate Coding Challenge. (2004). • Member of Editorial Board, Eniac Magazine, the Azad University of Mashhad Computer Students Monthly. (2003-2004) • Member of Editorial Board, Algorithm Magazine, the Azad University of Mashhad, published every season. (2002-2004) • Senior Member, Azad University of Mashhad Computer Students Scientific Committee. (2002-2004)
<p>Extra-curricular Activities</p>	<ul style="list-style-type: none"> • Violin playing (amateur). (2008-present) • Web and Weblog Designing and Maintaining and writing.(2000-present) • Captain of basketball team, students of Khorasan province.(1996-2000). • A member of swimming team in high School. (1997-1999) • Horse riding (amateur). (2002-present) • Member of editorial board, Noor magazine, Azad University of Mashhad. (2003-2004) • Member of Red Cross Society. (2003-2004)
<p>Language Proficiency</p>	<ul style="list-style-type: none"> • English: TOEFL-IBT (August 24, 2008), ETS ID: 3612416: Reading: 29, Writing: 24, Listening: 26, Speaking: 24, total: 103 • Persian(Farsi): Mother Tongue • Arabic, French, Spanish: Fair