# Hassan Motallebi



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# Education

Ph.D. in Computer Engineering (Software) from School of Computer Engineering, Iran University of Science and Technology, Tehran, Iran (2013)

- Dissertation: A Formalism for Modeling and Timing Analysis of Hybrid Systems
- Supervisor: Dr. Mohammad Abdollahi Azgomi

M.Sc. in Computer Engineering (Software) from School of Computer Engineering, Iran University of Science and Technology, Tehran, Iran (2008)

- Thesis: Optimization of Whole-Program Locality with Dynamic Array Restructuring
- Supervisor: Dr. Saeed Parsa

B.Sc. in Computer Engineering (Software) from Department of Electrical and Computer Engineering, Isfahan University of Technology, Isfahan, Iran (2005)

# Publications

Mahdi Mohseni, Hassan Motallebi, Behrouz Minaei-Bidgoli, Mahmoud Shokrollahi-far: A Farsi Part-of-Speech Tagger Based on Markov Model. Proceedings of the 2008 ACM Symposium on Applied Computing (SAC), Fortaleza, Ceara, Brazil (2008) pp. 1588-1589

Hassan Motallebi, Roya Zare-Farkhady, Mohammad Abdollahi Azgomi: A Probabilistic Solution for Process Mining of Incomplete Noisy Execution Logs in BPMSs, Proceedings of the First Iranian Information and Communication Technology Congress (IICTC'10), Tehran Metropolitan, Tehran, Iran, May 22-24, 2010 (in Persian)

Ali Rad Khorrami, Hassan Motallebi, Mohammad Abdollahi Azgomi: A Pattern to Employ GMRES Method for Solving Large Markov Chains. The 7th International Iranian Workshop on Stochastic Processes, Tehran, Iran, 2010

Hassan Motallebi, Saeed Parsa: Data Locality Optimization of Interference Graphs Based on Polyhedral Computations. The Journal of Supercomputing, Vol. 61, No. 3 (2012) pp. 935-965.

Ali Rad Khorrami, Hassan Motallebi, Mohammad Abdollahi Azgomi: Improving the Locality of Data in WZ Factorization for Solution of the System of Linear Equations, Proceedings of the 17th Annual National CSI Computer Conference (CSICC'12), Sharif University of Technology, Tehran, Iran, March 6-8, 2012, pp. 609-613 (in Persian)

Hassan Motallebi, Mohammad Abdollahi Azgomi: Modelling and Verification of Hybrid Dynamic Systems Using Multisingular Hybrid Petri Nets. Theoretical Computer Science (TCS), Vol. 446 (August 2012) pp. 48-74

Hassan Motallebi, Mohammad Abdollahi Azgomi, Mohammad Saber Mirzaei, Ali Movaghar: A New Extension of Activity Networks for Modelling and Verification of Timed Systems, Journal of Electrical Engineering & Computer Sciences (TJEECS). Vol. 21, No. 6, TÜBİTAK (2013), pp. 1751 -1779.

Hassan Motallebi, Mohammad Abdollahi Azgomi: Translation from Multisingular Hybrid Petri Nets to Multisingular Hybrid Automata. Journal of Fundamenta Informaticae. IOS Press, Vol. 130, No. 3 (Number 1, 2014) pp. 275-315

Hassan Motallebi, Mohammad Abdollahi Azgomi: Parametric multisingular hybrid Petri nets: Formal definitions and analysis techniques. Information and Computation, Vol. 241 (April 2015) pp. 321-348

Zahra Sotoudenia, Hassan Motallebi: Modelling the Best-client Data Replication Method based on Stochastic Reward Nets, International Academic Institute for Science and Technology, Vol. 2, No. 9, ISSN 2454-3896 (2015) pp. 52-62

Zahra Sotoudenia, Hassan Motallebi: A Framework for Markov Modeling Reference Localities in Data Grid, International Conference on Information Technology Computer & Communication, Torbat-e-heydarieh, Iran (2015)

Zahra Sotoudenia, Hassan Motallebi: Performance Modeling of the Cascading Replication Strategy based on Stochastic Reward Nets, 2<sup>nd</sup> International Conference & 3<sup>rd</sup> National Conference on New Technologies Application in Engineering, Mashhad, Iran (2016)

Hassan Motallebi, Mohammad Mehdi Mahmoudian: Near-optimal data replication in data grid, Proceedings of the First Conference on computer and network technology perspective for 2030, Meybod, Iran (2016)

Hassan Motallebi, Elahe Shamsi: Designing a new framework for modeling the behavior of fault-tolerant workflow management systems in grid environment, 1<sup>st</sup> International conference on new research in science and engineering, Qazvin, Iran (2016)

Alemeh Matani, Hamid Reza Naji, Hassan Motallebi: A Fault-Tolerant Workflow Scheduling Algorithm for Grid with Near-optimal Redundancy, To Appear in Journal of Concurrency and Computation: Practice and Experience

Alemeh Matani, Hamid Reza Naji, Hassan Motallebi: Reliable and Multi-Level Critical Path based Workflow Scheduling in Grid Computing, International Congress of Electrical Engineering, Computer Science and Information Technology (Aug 22, 2015)

Ahmad Shokooh-saljoughi, Sajjad Ranjbar-rafsanjani, Hassan Motallebi: Study of Performance ZigBee Network under Wi-Fi Interference, International Conference on Applied Research in Computer & Information (2016)

Mina Jamshidi, Hassan Motallebi, Masoume Khorshidzadeh: Data classification in  $\mathbb{R}^n$  based on polyhedra with Bayesian decision boundaries, 48th annual iranian mathematics conference, Bu-Ali University, Hamedan, Iran, 2017

Fatemeh Karimi, Mina Jamshidi, Hassan Motallebi: Max-Min Seperability with minimum partitins, 48th annual iranian mathematics conference, Bu-Ali University, Hamedan, Iran, 2017

Atiyeh Shiri, Maryam Masoumi, Hassan Motallebi: A survey on reliability improvement of workflow scheduling algorithms, 2nd International Conference on Information Technology, Computer & Telecommunication, Mashhad, Iran, 2017

Maryam Masoumi, Atiyeh Shiri, Hassan Motallebi: A Comparison of Fault-Tolerance Scheduling Algorithms for Deadline-Constrained Programs. 4th National Conference on Information Technology, Computer and Telecommunication, Mashhad, Iran, 2017

Somayyeh Zeraati, Hassan Motallebi: Minimizing makespan through intra-task parallel execution of workflows considering execution cost. 2<sup>nd</sup> international Conference on Management & ICT, 2018

Hassan Motallebi: A Fault-Tolerant Task Graph Scheduling Algorithm based on Concurrency Cliques, to appear in Journal of supercomputing.

Atiyeh Shiri, Maryam Masoumi, Hassan Motallebi: A Task Concurrency Based Algorithm for Fault Tolerant Workflow Scheduling, Conference on Computer, Information Technology and AI Applications, 2018

Maryam Masoumi, Atiyeh Shiri, Hassan Motallebi: A Fault Tolerant Workflow Scheduling Algorithm based on Resubmission and Replication Redundancies, Conference on Computer, Information Technology and AI Applications, 2018

### Book:

Mohammad Abdollahi Azgomi, Hassan Motallebi: Performance Evaluation of Computer Systems: A Model-Based Approach, Publications of Iran University of Science and Technology, Tehran, Iran (In Press)

#### **Research Interests**

Performance and Dependability Modeling Performance Evaluation of Computer Networks Data Mining Grid and Cloud Computing

### **Graduate Courses Taught**

Modeling and Performance Evaluation of Computer Systems Performance Evaluation of Computer Networks Computer Systems and Network Management Data Mining Dependable Software Systems Design Advanced Database Systems Stochastic Processes

# Students

#### **Current M.Sc. Students:**

- Iran Shokriour-BahmanBiglou, Thesis Title: Intrusion Detection System Using Data Mining Techniques and Genetic Algorithm (KIAU)
- Somayye Maleki, Thesis Title: Proposing a new method for scheduling malleable tasks in distributed environments (KIAU)
- Zeinab Sarmadi, Thesis Title: A Linear Programming Approach for Intra-Task Parallelism Workflow Scheduling in Grid Environment
- Somayeh Zeraati, Thesis Title: Minimizing the Workflow Makespan Exploiting Intra-Task Parallelism with Consideration of Cost Optimality
- Saeed Yousefzade-Arab-Anari, Thesis Title: Proposing a New Algorithm for Parallel Execution of Workflows in Grid Based On Graph Theory (KIAU)
- Hamidreza Molayi, Thesis Title: Proposing a new method for web recommendation improvement based on the apriori and nearest neighbor algorithms (KIAU)
- Afsaneh Jalali, Thesis Title: Proposing a New Method for Parallel Execution of Workflows based on Interval Computations (KIAU)
- Atiyeh Shiri
- Maryam Masoumi

## **Current Ph.D. Students:**

Mohammad-Ali Kianifar, Thesis Title: A new approach for mining of temporal data based on Ensemble learning methods, Islamic Azad University, Kerman

Hamidreza Abdi (Adviser) Thesis Title: A Compositional Modeling Framework Based on Multi-Formalisms for Hybrid Systems, Iran University of science and technology

## Alumni M.Sc. Students:

- Fetemeh Motallebi-Paghale, Thesis Title: A Location-Aware Neighbor Selection Strategy for Overlay Construction in P2p Live Media Streaming
- Mohammad Mehdi Mahmoudian, Thesis Title: Dependability Evaluation of Dynamic Data Replication Algorithms in Data Grid
- Alemeh Matani (As Advisor), Thesis Title: improving grid resource allocation with consideration of quality of service and security parameters
- Mahboubeh Gasemizadeh, Thesis Title: Designing an algorithm for minimizing vulnerability of multicast graph in p2p live streaming systems (KIAU)
- Iman Sahraie-Dehmajnouni, Thesis Title: Designing a New Framework for Markov Modeling and Assessing the Reliability of Topology Construction Algorithms in Sensor Network (KIAU)
- Elaheh Shamsi, Thesis Title: Designing a New Framework for Modeling the Behavior of Fault-Tolerant Workflow Management Systems in Grid Environment (KIAU)
- Shima Torabian, Thesis Title: Proposing a New Approach for Reliable Scheduling of Grid Workflows with Optimum Time and Cost (KIAU)
- Nasim Akbarizadeh-Kermani, Thesis Title: Proposing a New Approach for Parallel Execution of Workflows in Grid with an Optimum Increase in Cost (KIAU)
- Akram Salajegheh, Thesis Title: Proposing a New Algorithm for Process Mining of Incomplete Logs in Presence of Noise (KIAU)
- Saeed Najafi, Thesis Title: Proposing a Novel Algorithm Based On Linear Programming for Parallel Execution of Workflows in Grid Environment (KIAU)
- Mohadeseh Beitollahi, Thesis Title: Proposing a Novel Method for Modeling and Performance Evaluation of Hadoop Distributed File System (KIAU)
- Najmeh Malekoutifar, Thesis Title: Proposing a New Approach for Dependable Services Composition in Presence of Workload Dynamicity of Service Providers in Service Oriented Architecture (KIAU)
- Zahra Sotoudenia, Thesis Title: Designing a Framework for Modeling and Evaluation of Data Replication Methods in Data Grid Environments Based On Stochastic Reward Nets (KIAU)
- Shayesteh Eslami (As Advisor), Thesis Title: Improving HPC Application Performance in Cloud Federation through Dynamic Load Balancing (KIAU)
- Mahin Khaleghi, Thesis Title: Proposing a New Method for Traffic Bottleneck Discovery Using Data Mining Techniques for Performance Improvement of VANET (KIAU)
- Asma Naimi-Baghini, Thesis Title: Proposing a Novel Ensemble Learning Method Based On Neural Networks for Estimating Blood Lipids from Clinical Signs (KIAU)