

# Omid Gholami



Ph.D. in Computer Science  
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Algorithm Design, Scheduling Theory, Optimization, Transportation Planning, and Routing.

## Education:

- Ph.D. Algorithm and Computation, National Academy of Science - Minsk, Belarus. 2014.
- M.Sc. Software Engineering, Islamic Azad University - Shabestar, Iran. 2008.
- B.Sc. Software Engineering, Islamic Azad University - Sari, Iran. 2003.

## Jobs experiences:

- Post-doc - Blekinge Institute of Technology - Karlskrona, Sweden. October-2016 – Now.
- Assistant Professor-Islamic Azad University –Mahmudabad, Iran. April-2014 - September-2016.
- Ph.D. Candidate - National Academy of Science - Minsk, Belarus. March-2011 - March-2014.
- Lecturer - Islamic Azad University - Mahmudabad, Iran. March-2007 - February-2010.
- Software Engineer, Programmer - Caleg Group – Sari, Iran. 2002 - 2007.

## A good understanding of:

- Algorithm Design and Complexity
- Heuristic and Metaheuristics Approaches
- Scheduling Theory
- Graph Theory
- Machine Learning
- Linear Optimization

## Technical skills:

Java, C++, Delphi, Python, SQL, CSS, HTML, Git, UML, JUnit, Qt Creator,  
SQL-Server, MySQL, Open-MP, MPI, Multithread,  
Numpy, Pandas, Matplotlib, Seaborn, Scikit-learn, Keras,

## Scientific research and publications:

- More than fourteen conference papers and nine Journal papers.
- Supervision of more than 40 B.Sc. and 10 M.Sc. degree thesis.
- Google scholar: <https://scholar.google.com/citations?user=HX8E4j0AAAAJ&hl>
- LinkedIn: <https://www.linkedin.com/in/omid-gholami-50448b111/>

## Projects:

- BLIXTEN, evaluation of algorithms for real-time scheduling support (2018- Now).
- FLOAT, Real-time decision support for railway traffic management (2016- 2017).

## Positions:

- Technical IT Consultant at Islamic Azad University- Mazandaran province. 2016.
- Guest researcher at Otto-von-Guericke University Magdeburg, Germany, supported by OvGU Magdeburg (2015).
- Director of computer science department, Islamic Azad University- Mahmudabad Branch, 2009, and 2015.

### Pedagogical courses:

- Teaching methods and pedagogy I, II at IAU.
- Teaching psychology at IAU.
- Philosophy of science and research at NASB.
- Higher education pedagogy (introductory course) at BTH.

### Certificates:

- Supervised Learning with scikit-learn, Mar 2018, License #5,127,919, Certification authority: DataCamp.
- Intermediate Python for Data Science Course, Feb 2018, License #5,235,027, Certification authority: DataCamp.
- Deep Learning in Python, Date Mar 2018, License #5,203,316, Certification authority DataCamp.
- Machine Learning A-Z, Hands-On Python & R in Data Science, License UC-0S89ZPVC, Certification authority: Udemy Academy.

### Publications list:

#### Conference papers:

1. Gholami, O. Reducing page faults with a self-testing page allocation method, / O. Gholami, A. M. Rahmani, H. Motameni// International Conference on telecom technology and Applications (ICTTA 2009), Manila, Philippines, 2009. P. 419-423.
2. Gholami, O. Train routing and timetabling via a genetic algorithm/O. Gholami, Y.N. Sotskov// the 14th international conference on information control problem in manufacturing, INCOM 12, Bucharest Romania. 2012.
3. Gholami, O. A Fast heuristic for a job-shop problem, O. Gholami, Y.N. Sotskov, Fifth international conference on scheduling and decomposition, Tanaev Reading, Minsk, Belarus. 2012.
4. Gholami, O. Job-shop problems with objectives appropriate to train scheduling in a single-track railway, O. Gholami, Y.N. Sotskov, F. Werner, Proceedings of 2nd international conference on simulation and modeling methodologies, technologies and applications, Roma, Italy . 2012. P. 425– 430.
5. Matvechuk, H.M Sufficient conditions for the optimality of a schedule for two machines and a set of jobs with different machine routes and interval processing times/ H.M. Matvechuk, Y.N. Sotskov, O. Gholami// Fifth international conference on scheduling and decomposition, Tanaev Reading, Minsk, Belarus. 2012.
6. Sotskov, Y.N. Shifting bottleneck algorithm for train scheduling in a single-track railway/ Y.N. Sotskov, O. Gholami// The 14th international conference on information control problem in manufacturing, INCOM 12, Bucharest, Romania. 2012.
7. Sotskov, Y.N. Heuristic algorithms for a job-shop problem with minimizing total job tardiness/ Y.N. Sotskov, O. Gholami, F. Werner// Proceedings of 3rd international conference on optimization and applications, Costa da Caparica, Portugal. 2012. P. 23–30.
8. Sotskov, Y.N. Solving a job-shop scheduling problem by an adaptive algorithm based on learning/ Y N. Sotskov, O. Gholami, F. Werner// Saint Petersburg, Russia, June 19-21. 2013. P. 1368–1373.
9. Neda Sina, Omid Gholami, An extension of shifting bottleneck algorithm for scheduling flexible job-shop problems with consideration of Cmax objective function, Iranian national Conference on Mathematics and Computer, 2015 (In the Persian language).
10. Saeedeh Bakhoda, Omid Gholami, Job scheduling on non-identical parallel machines in order to maximize revenue, Iranian National Conference on Computer Engineering, Rasht-Iran, November 2015. (In the Persian language)
11. Saeedeh Bakhoda, Omid Gholami, Provide a new method for tasks scheduling on heterogeneous parallel machines with the goal of maximizing profit, Third International Conference on Applied

Research in Computer and Information Technology, Tarbiat Modares University, Tehran, Iran, Feb 4, 2016. (In the Persian language)

12. Hadi Gholami, Omid Gholami, A Tabu search approach for multiprocessor flow-shop scheduling problem, The first national conference on inter-disciplinary researches in the computer, electrical, mechanical, mechatronic engineering, Qazvin, Iran, 2016. (In the Persian language)
13. Hadi Gholami, Omid Gholami, A solution for multistage multiprocessor scheduling problem with a simulated annealing approach. The first national conference on inter-disciplinary researches in the computer, electrical, mechanical, mechatronic engineering, Qazvin, Iran, 2016. (In the Persian language).
14. Omid Gholami, Johanna Tornquist Krasemann, An Investigation of a Rule-Based Train Re-scheduling Approach for Disturbance Management, Joint EURO/ALIO International Conference 2018 on Applied Combinatorial Optimization, 2018 Accepted.

**Journal papers:**

15. Gholami, O. Heuristic algorithms for constructing schedules of jobs with different machine routes/ O. Gholami, Y.N. Sotskov//Informatika, Belarus. 2012. Vol.4. P.45-55.
16. Gholami, O. Fast edge-orientation heuristics for job shop scheduling problems with applications to train scheduling/ O. Gholami, Y.N. Sotskov, F. Werner// International Journal of Operations Research / Nepal (IJORN). 2013. Vol. 1. P.19–32.
17. Gholami, O. Solving parallel machines job-shop scheduling problems by an adaptive algorithm/ O. Gholami, Y.N. Sotskov// International Journal of Production Research 52 (13), 3888-3904, 2014. (ISI)
18. Gholami, O. A fast heuristic algorithm for solving parallel-machine job-shop scheduling problems/ O. Gholami, Y.N. Sotskov// International Journal of Advanced Manufacturing Technology. 70, 531-546, 2014. (ISI)
19. Gholami, O. Scheduling algorithm with controllable train speeds and departure times to decrease the total train tardiness/ O. Gholami, Y.N. Sotskov// International Journal of Industrial Engineering Computations, 2014. Vol 5, No 2. P. 281-294.
20. Gholami, O. A neural network algorithm for servicing jobs with sequential and parallel machines / O. Gholami, Y.N. Sotskov// Automation and Remote Control 75 (7), 1203-1220, 2014. (ISI)
21. Sotskov, Y., Gholami, O. (2017) Mixed graph model and algorithms for parallel-machine job-shop scheduling problems, International Journal of Production Research, 55 (6), 1549-1564, 2017. (ISI)
22. Omid Gholami, Yuri N. Sotskov, Frank Werner, a Genetic Algorithm for Hybrid Job-Shop Scheduling Problems with Minimizing the Makespan or Mean Flow Time, Journal of Advanced Manufacturing Systems (Accepted, October 2017).
23. Omid Gholami, Johanna Tornquist Krasemann, A Heuristic Approach to Solve the Train Traffic Re-scheduling Problem in Real-time, *Algorithms*, 2018, 11(4), 55; doi:10.3390/a11040055 (ISI).

**Book:**

24. Omid Gholami, Rahele Ghanbari, "International Computer Driving License (ICDL)," in 7 volumes (Computer's basics, Windows, Word, Excel, Access, PowerPoint, and the Internet), Mahkame publishing center, Tehran, Iran, 2004. In Persian language.