

CURRICULUM VITAE

Saman Babaie-Kafaki

(May 14, 2026)

Contact Information

- **Affiliation:** Faculty of Engineering, Free University of Bozen–Bolzano, Bolzano, Italy
- **Address:** B1.5.12, Faculty of Engineering, NOI Techpark, Bruno Buozzi Street 1, 39100 Bolzano, Italy
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Previous Positions

- RTD at Free University of Bozen–Bolzano: 15 May 2023–14 May 2026
- Full Professor of Semnan University: July 2019–May 2023
- Associate Professor of Semnan University: June 2015–July 2019
- Non–Resident Researcher of IPM–Institute for Research in Fundamental Sciences: September 2011–September 2015
- Assistant Professor of Semnan University: September 2010–June 2015

Language Skills

- **Persian (Farsi) & Mazandarani:** Native proficiency
- **English:** C1 (CEFR), certified by Free University of Bozen–Bolzano, September 2023
- **Italian:** C1 (CEFR), certified by Free University of Bozen–Bolzano, August 2025

Research Interests

- **Numerical Optimization:** Modeling, algorithms, and convergence analysis
- **Applied Optimization:** Regression analysis, signal processing, and data fitting
- **Matrix Computations:** Matrix factorizations and error analysis

Education

- Ph.D.: Applied Mathematics, Sharif University of Technology, 2005–2010 (Average: 18.03)
Thesis: New Conjugate Gradient Methods for Unconstrained Optimization
Supervisor: Professor Nezam Mahdavi–Amiri
- M.Sc.: Applied Mathematics, Sharif University of Technology, 2003–2005 (Average: 18.88)
Thesis: A Primal–Dual Interior–Point Algorithm for Semidefinite Programming
Supervisor: Professor Nezam Mahdavi–Amiri
- B.Sc.: Applied Mathematics, University of Mazandaran, 1999–2003 (Average: 18.05)

Honors

8. Ranked among the Top 5% of Scholars Worldwide (Lifetime) in Gradient Methods by ScholarGPS, 2025.
7. Received both the Springer Nature Editor Contribution and Author Service Award as the Editor of Numerical Algorithms, 2025.
6. The best teacher of the Faculty of Mathematics, Statistics and Computer Science, Semnan University, 2021 and 2023.
5. The best researcher of the Faculty of Mathematics, Statistics and Computer Science, Semnan University in 2012, 2014, 2016, 2018, 2020 and 2022.
4. The best researcher in the field of Mathematics in Semnan Province, 2016.
3. Scored first rank among the M.Sc. alumni of Faculty of Mathematical Sciences, Sharif University of Technology, 2005.
2. Earned second country wide rank in the entrance examination out of more than 5000 applicants seeking admission to graduate studies in Applied Mathematics in Iran, 2003.
1. Scored first rank among the B.Sc. alumni of Faculty of Mathematical Sciences, University of Mazandaran, 2003.

Grants

9. MountexO–Orientation Service for Mountex (Mountex), Bolzano, Italy, July–August 2025 (WP Leader: Andrea Janes; Task Leader: Anton Dignós; Contact: Damian Comper; Reference: Raoul Ragazzi).
8. Memoryless Descent Algorithms for Solving Large–Scale Continuous Optimization Problems, Iranian National Science Foundation (INSF), Grant No. 4005578, 2024.
7. Developing Gradient Based Methods for Optimization, Iranian National Science Foundation (INSF), Grant No. 97022259, 2019.

6. New Approaches in Adaptive Trust Region Methods for Solving Large–Scale Unconstrained Optimization Problems, Iranian National Science Foundation (INSF), Grant No. 95849086, 2018.
5. Hybrid Approaches for Solving Large–Scale Unconstrained Nonlinear Optimization Problems, Iranian National Science Foundation (INSF), Grant No. 9581376, 2016.
4. Modified Nonlinear Three–Term Conjugate Gradient Methods for Unconstrained Optimization, Institute for Research in Fundamental Sciences (IPM), Grant No. 93650051, 2014.
3. Adaptive Nonlinear Conjugate Gradient Methods, Institute for Research in Fundamental Sciences (IPM), Grant No. 91900051, 2012.
2. Hybrid Conjugate Gradient Methods, Institute for Research in Fundamental Sciences (IPM), Grant No. 90900023, 2011.
1. Talented Students Grant, Faculty of Mathematical Science, Sharif University of Technology, 2005.

Lectures

9. Successful Examples of Enhancing Computational Performance of the Classic Algorithms Using the Soft Computing Aspects, **9th International Conference on Combinatorics, Cryptography, Computer Science and Computation**, Semnan University, Semnan, Iran, 25–26 December 2024.
8. On the Algorithmic Privileges of the Dai–Liao Conjugate Gradient Approach, **55th Annual Iranian Mathematics Conference**, Ferdowsi University of Mashhad, Mashhad, Iran, 14–16 August 2024.
7. Sparse Hessian Approximations for Nonlinear Programming Models, **17th International Conference of Iranian Operations Research Society**, Kharazmi University, Tehran, Iran, 3–4 July 2024.
6. Modified Models of the Nonnegative Matrix Factorization Problem Based on Well-Conditioning of the Factorization Elements, **APORS Optimization Forum**, China, 7 July 2023.
5. Modified Conjugate Gradient Methods Based on Singular Value Analysis, **International Conference on Computational Science and Numerical Algorithms (CSMA 2021)**, China, 29–31 May 2021.
4. Some Matrix Aspects of Memoryless Nonlinear Programming Algorithms, **Sharif University of Technology**, Tehran, Iran, 23 May 2021.
3. Modified Optimization Models in Linear Regression, **Ferdowsi University of Mashhad**, Mashhad, Iran, October 2020.
2. Recent Approaches in Large–Scale Nonlinear Optimization, **Semnan University**, Semnan, Iran, April 2015.
1. Recent Approaches in Nonlinear Conjugate Gradient Methods, **Institute for Research in Fundamental Sciences (IPM)**, Tehran, Iran, February 2015.

Teaching Experiences

- **Sharif University of Technology (2005–2010):**
 - **Under Graduate:** Scientific Computing.
- **Semnan University (2010–2023):**
 - **Graduate:** Advanced Operations Research, Nonlinear Programming, Advanced Mathematical Programming, Numerical Methods for Decision Making, Numerical Linear Algebra, Advanced Linear Programming, Quantitative Modeling in Management, Computational Data Mining.
 - **Under Graduate:** Calculus, Differential Equations, Operations Research, Linear Programming and Network Flows, Nonlinear Programming, Numerical Linear Algebra, Scientific Computing, Numerical Analysis, Mathematical Software.
- **Free University of Bozen–Bolzano (2024–2025):**
 - **Under Graduate:** Operations Research, Optimization.

Professional Experiences

- Member of the Operational Research Evaluator Committee of the VQR (Valutazione della Qualità della Ricerca–Research Quality Assessment) of Italy–ANVUR (Agenzia Nazionale di Valutazione del Sistema Universitario e della Ricerca–National Agency for the Evaluation of Universities and Research Institutes) from 2025.
- Editor of the Journal of Applied Mathematics and Computing from 2024.
- Editor of the Numerical Algorithms from 2023.
- Editor of the Iranian Journal of Numerical Analysis and Optimization from 2023.
- Editor of the International Journal of Nonlinear Analysis and Applications, 2012–2022.
- Member of the Scientific Committee of the (Annual) International Conference of Iranian Operations Research Society from 2014.
- Member of the Scientific Committee of the Annual Iranian Mathematics Conference in 2014, 2024, and 2025.
- Vice Chancellor for Research and Technology of the Faculty of Mathematics, Statistics and Computer Science of Semnan University, January–May 2023.
- Administrator of the Office of Talented Students of Semnan University, 2015–2021.
- Reviewer of Mathematical Reviews (MathSciNet), 2014–2022.

Refereeing Activities

►European Journal of Operational Research ►Computational Optimization and Applications
►Optimization Methods & Software ►4OR–A Quarterly Journal of Operations Research ►Journal
of Computational and Applied Mathematics ►Optimization ►Engineering Optimization ►Numerical
Algorithms ►Pacific Journal of Optimization ►Journal of Industrial and Management Optimization
►International Journal of Computer Mathematics ►Computers and Mathematics with Applications
►RAIRO–Operations Research ►Journal of Inequalities and Applications ►Applied Mathematics–
A Journal of Chinese Universities ►Iranian Journal of Science and Technology–Transactions A: Sci-
ence ►Computational and Applied Mathematics ►Iranian Journal of Numerical Analysis and Opti-
mization ►Applied Mathematics and Computation ►Bulletin of the Iranian Mathematical Society
►Mediterranean Journal of Mathematics ►Far East Journal of Mathematical Sciences ►Numerical
Functional Analysis and Optimization ►IEEE Access ►Applied Soft Computing ►Calcolo
►International Journal of Computational Methods ►PLOS One ►Operations Research Letters
►Optimization Letters ►Journal of Optimization Theory and Applications ►Numerical Linear Al-
gebra with Applications ►Mathematical Sciences ►Applied Numerical Mathematics ►Journal of
Nonlinear Functional Analysis ►Mathematics and Computers in Simulation ►Mathematical Mod-
elling and Analysis ►IEEE Open Journal of Signal Processing ►Soft Computing ►Communications
in Combinatorics and Optimization ►Mathematical Methods in the Applied Sciences ►Yugoslav
Journal of Operations Research ►FILOMAT ►Communications in Nonlinear Science and Numerical
Simulation ►Journal of Mathematics ►Optimization and Engineering ►Journal of Computational
Mathematics ►European Journal of Pure and Applied Mathematics ►Journal of Mathematical
Analysis and Applications ►Acta Mathematica Scientia ►Electronic Research Archive ►Expert
Systems with Applications ►OPSEARCH ►Journal of Statistical Computation and Simulation
►Computers and Operations Research.

Postdoctoral Research Fellows

2. Zohre Aminifard: Applying New Optimization Approaches for Solving Compressed Sensing Problem, Iranian National Science Foundation (INSF), Grant No. 99031532, November 2021–November 2022.
1. Zohre Aminifard: Developing New Approaches for Solving Sparse Reconstruction Problem, Semnan University, October 2020–September 2021.

Ph.D. Students Supervised

10. Fatemeh Dargahi: Solving Alternating Least–Squares Model of the Nonnegative Matrix Factorization Problem by Improving Descent Memoryless Algorithms, October 2024. (Joint with Dr. Zohre Aminifard as the Advisor)
9. Maria Toofan: Using Ellipsoid Norms for Determining Parameter of the Hybrid Conjugate Gradient Algorithms, October 2024.
8. Arezoo Bakhshinejad: Improving the Efficiency of Memoryless Quasi–Newton Algorithms Based on the Nonlinear Conjugate Gradient Methods, September 2024.

7. Saeide Ghafoori: Hybrid Quasi–Newton Updates Based on Modified Secant Equations with Application to Compressed Sensing, January 2024. (Joint with Dr. Zohre Aminifard as the Advisor)
6. Nasrin Mirhoseini: Improving the Structure of Polak–Ribière–Polyak Conjugate Gradient Method with Application to Image Restoration, February 2023. (Joint with Dr. Zohre Aminifard as the Advisor)
5. Zohre Aminifard: Developing Matrix Approaches for Iterative Methods in Unconstrained Optimization, July 2019.
4. Nahid Dorostkar Ahmadi: An Optimal Model for Green–Knowledge Based Product Portfolio with Emphasis on Customer and Engineering Transaction (Case study: Behran Oil Company), March 2019. (Joint with Dr. Mohsen Shafie Nikabadi as the 1st Supervisor)
3. Ali Sorourkhah: Proposing a Three–Dimensional Robustness Analysis for Using in Strategic Planning–Case Study: Saipa Automotive Research and Innovation Center, October 2017. (Joint with Professor Adel Azar as the second supervisor and Dr. Mohsen Shafie Nikabadi as the Advisor)
2. Saeed Rezaee: Modified Trust Region Algorithms, October 2017.
1. Mohammad Reza Arazm: Using Quasi–Newton Equations in Conjugate Gradient Methods, May 2017. (Joint with Dr. Reza Ghanbari as the Advisor)

M.Sc. Students Supervised

15. Alireza Poorpanah: An Accelerated Nonmonotone Trust Region Method with Adaptive Radius for Unconstrained Optimization, July 2023.
14. Mina Saghian: Analysis of a Fuzzy Model for Optimizing the Knowledge Transferring Costs in Designing Product Portfolio, July 2023.
13. Fatemeh Zahra Mohseni: On Spectral Properties of the Steepest Descent Methods, September 2021.
12. Saeed Ebrahimi: On a Nonmonotone Trust Region Method for Unconstrained Optimization, January 2019.
11. Jalal Vardan: Studying Global Convergence of the BFGS and PRP Methods under a Modified Wolf Line Search, September 2018.
10. Babak Shojae–Shafie: On Some Nonmonotone Trust Region Methods with Simple Quadratic Models, April 2018.
9. Mohammad Hasan Kazemi: On Some Symmetric Rank–One Updates for the Hessian Approximation, July 2017.
8. Amir Hossein Nafei: On Some Proposed Step Lengths for Improving the Gradient Method, July 2017.

7. Nasrin Mirhosseini: On a Nonlinear Conjugate Gradient Method which is Globally Convergent for Nonconvex Functions, July 2016.
6. Hossein Mehdizadeh: A Class of Descent Nonlinear Three-Term Conjugate Gradient Methods Based on Secant Conditions, June 2016.
5. Shayesteh Moradi: Some Descent Modified Fletcher-Reeves Conjugate Gradient Methods, September 2015.
4. Mazaher Bagheri Sabet Khesmakhi: Some Descent Modified Polak-Ribière-Polyak Conjugate Gradient Methods, September 2015.
3. Kolsoum Hosseinpour Saloukoloiaie: Multistep Nonlinear Conjugate Gradient Methods for Unconstrained Optimization, March 2015.
2. Parisa Abolghasemi: Scaled Conjugate Gradient Algorithms for Unconstrained Optimization, October 2014.
1. Esmiaeel Davoudi Nia: A Modified Quasi-Newton Method for Structured Optimization with Partial Information on the Hessian, October 2014.

Journal Articles

112. Z. Saeidian, Z. Aminifard and S. Babaie-Kafaki, A modified trust region algorithm by diagonally approximating the Hessian and hybridizing the trust region ratios in a fuzzy framework with application in image processing, **International Journal of Intelligent Computing and Cybernetics**, 2026, to appear, 1–22.
111. F. Dargahi, S. Babaie-Kafaki and Z. Aminifard, A family of optimal settings for the Dai-Liao parameter based on an ellipsoid norm least-squares problem with application to a revised model of the nonnegative matrix factorization, **Pacific Journal of Optimization**, DOI: 10.61208/pjo-2026-006, 2026.
110. S. Babaie-Kafaki and D. Comper, Matrix modeling for performance analysis of commercial credit circuits: Mountex as a case study, **International Journal of Research in Industrial Engineering**, 2026, DOI: 10.22105/riej.2025.548290.1692.
109. M. Toofan and S. Babaie-Kafaki, Hybrid conjugate gradient methods based on an extended least-squares model, **Vietnam Journal of Mathematics**, 54 (2026) 205–213.
108. S. Babaie-Kafaki and Z. Aminifard, An augmented memoryless Davidon-Fletcher-Powell method based on the Dai-Liao approach, **Optimization**, 74(15) (2025) 4049–4061.
107. F. Dargahi, S. Babaie-Kafaki, Z. Aminifard and M. Hajian-Berenjestanaki, Solving an augmented nonnegative matrix factorization model by modified scaled nonmonotone memoryless BFGS methods devised based on the ellipsoid vector norm, **Mathematical Methods in the Applied Sciences**, 48(8) (2025) 9088–9097.
106. S. Babaie-Kafaki, F. Dargahi and Z. Aminifard, On solving a revised model of the nonnegative matrix factorization problem by the modified adaptive versions of the Dai-Liao method, **Numerical Algorithms**, 99 (2025) 505–519.

105. N. Mirhoseini, S. Babaie–Kafaki and Z. Aminifard, Two descent spectral conjugate gradient techniques with practical application for image restoration, **Communications in Mathematical Sciences**, 23(4) (2025) 947–958.
104. A. Bakhshinejad and S. Babaie–Kafaki, An extended version of the memoryless DFP algorithm with the sufficient descent property, **Bollettino dell Unione Matematica Italiana**, 17 (2024) 747–758.
103. A. Ebrahimnejad, Z. Aminifard and S. Babaie–Kafaki, A scaled descent modification of the Hestense–Stiefel conjugate gradient method with application to compressed sensing (in Persian), **Journal of New Researches in Mathematics**, 43 (2024) 109–121.
102. Z. Aminifard, S. Babaie–Kafaki, F. Habibian–Dehkordi and M. Toofan, Accelerated nonmonotone line search technique for multiobjective optimization, **RAIRO–Operations Research**, 58(4) (2024) 2783–2795.
101. Z. Aminifard and S. Babaie–Kafaki, A scalar Hessian estimation with a sparse nonmonotone line search technique for the sparse recovery problem, **Journal of Industrial and Management Optimization**, 20(9) (2024) 2854–2863.
100. Z. Saeidian, Z. Aminifard and S. Babaie–Kafaki, A nonmonotone adaptive trust region technique with a forgetting factor, **International Journal of Computer Mathematics**, 101(5) (2024) 512–523.
99. F. Dargahi, S. Babaie–Kafaki and Z. Aminifard, Eigenvalue analyses on the memoryless Davidon–Fletcher–Powell method based on a spectral secant equation, **Journal of Optimization Theory and Applications**, 200 (2024) 394–403.
98. R. Fallah–Moghaddam and S. Babaie–Kafaki, The effect of value of small-volume transactions on the TEDPIX of Iran, **Financial Economics**, 18(66) (2024) 409–433.
97. S. Babaie–Kafaki, N. Mirhoseini and Z. Aminifard, A class of CG algorithms overcoming jamming of the iterative solving process and its application in image restoration, **Journal of Computational and Applied Mathematics**, 442 (2024) 115727.
96. F. Dargahi, S. Babaie–Kafaki and Z. Aminifard, Descent spectral versions of the traditional conjugate gradient algorithms with application to nonnegative matrix factorization, **Annals of the Academy of Romanian Scientists–Series on Science and Technology and Information**, 16 (1–2) (2023) 5–20.
95. M. Roozbeh, S. Babaie–Kafaki and Z. Aminifard, A nonlinear mixed–integer programming approach for variable selection in linear regression model, **Communications in Statistics–Simulation and Computation**, 5(11) (2023) 5434–5445.
94. Z. Aminifard and S. Babaie–Kafaki, A diagonally scaled Newton–type proximal method for minimization of the models with nonsmooth composite cost functions, **Computational and Applied Mathematics**, 43 (2023) 353.
93. Z. Aminifard and S. Babaie–Kafaki, A nonmonotone ADMM–based diagonal quasi–Newton update with application to the compressive sensing problem, **Mathematical Modelling and Analysis**, 28(1) (2023) 673–688.

92. Z. Aminifard, S. Babaie–Kafaki and F. Dargahi, Nonmonotone quasi–Newton–based conjugate gradient methods with application to signal processing, **Numerical Algorithms**, 93 (2023) 1527–1541.
91. Z. Aminifard and S. Babaie–Kafaki, A restart scheme for the memoryless BFGS method, **Optimization**, 72(8) (2023) 2109–2121.
90. Z. Aminifard and S. Babaie–Kafaki, An approximate Newton–type proximal method using symmetric rank–one updating formula for minimizing the nonsmooth composite functions, **Optimization Methods and Software**, 38(3) (2023) 529–542.
89. Z. Aminifard, S. Babaie–Kafaki and N. Mirhoseini, An accelerated three–term extension of a descent nonlinear conjugate gradient method, **Asia–Pacific Journal of Operational Research**, 40(3) (2023) 2250047.
88. S. Babaie–Kafaki, N. Mirhoseini and Z. Aminifard, A descent extension of a modified Polak–Ribière–Polyak method with application in image restoration problem, **Optimization Letters**, 17 (2023) 351–367.
87. S. Babaie–Kafaki, A survey on the Dai–Liao family of nonlinear conjugate gradient methods, **RAIRO–Operations Research**, 57(1) (2023) 43–58.
86. Z. Aminifard and S. Babaie–Kafaki, Diagonally scaled memoryless quasi–Newton methods with application to compressed sensing, **Journal of Industrial and Management Optimization**, 19(1) (2023) 437–455.
85. M. Roozbeh, S. Babaie–Kafaki and Z. Aminifard, Improved high–dimensional regression models with matrix approximations applied to the comparative case studies with support vector machines, **Optimization Methods and Software**, 37(5) (2022) 1912–1929.
84. N. Mirhoseini, S. Babaie–Kafaki and Z. Aminifard, A nonmonotone scaled Fletcher–Reeves conjugate gradient method with application in image reconstruction, **Bulletin of the Malaysian Mathematical Sciences Society**, 45 (2022) 2885–2904 .
83. S. Babaie–Kafaki, Z. Aminifard and S. Ghafoori, A hybrid quasi–Newton method with application in sparse recovery, **Computational and Applied Mathematics**, 41 (2022) 249.
82. S. Babaie–Kafaki, Z. Aminifard and S. Ghafoori, Nonmonotone diagonally scaled limited–memory BFGS methods with application to compressive sensing based on a penalty model, **Applied Numerical Mathematics**, 181 (2022) 618–629.
81. H. Aghababayi, M. Shafiei–Nikabadi, S. Babaie–Kafaki and M. Rahmanimanesh, Challenges of using block chain technology in the international markets, **Journal of Information Technology Management**, 14 (2022) 171–191.
80. M. Roozbeh, S. Babaie–Kafaki and M. Maanavi, A heuristic algorithm to combat outliers and multicollinearity in regression model analysis, **Iranian Journal of Numerical Analysis and Optimization**, 12(1) (2022) 173–186.
79. Z. Aminifard and S. Babaie–Kafaki, Improving the Dai–Liao parameter choices using a fixed point equation, **Journal of Mathematical Modeling**, 10(1) (2022) 11–20.

78. Z. Aminifard and S. Babaie–Kafaki, Dai–Liao extensions of a descent hybrid nonlinear conjugate gradient method with application in signal processing, **Numerical Algorithms**, 89 (2022) 1369–1387.
77. N. Dorostkar–Ahmadi, M. Shafiei–Nikabadi and S. Babaie–Kafaki, Optimization of knowledge transferring costs in designing product portfolio: a fuzzy binary linear programming model, **VINE Journal of Information and Knowledge Management Systems**, 52(1) (2022) 18–32.
76. Z. Aminifard, A. Hosseini and S. Babaie–Kafaki, Modified conjugate gradient method for solving sparse recovery problem with nonconvex penalty, **Signal Processing**, 193 (2022) 108424.
75. Z. Aminifard and S. Babaie–Kafaki, Analysis of the maximum magnification by the scaled memoryless DFP updating formula with application to compressive sensing, **Mediterranean Journal of Mathematics**, 18 (2021) 255.
74. M. Roozbeh, S. Babaie–Kafaki and Z. Aminifard, Two penalized mixed–integer nonlinear programming approaches to tackle multicollinearity and outliers effects in linear regression models, **Journal of Industrial and Management Optimization**, 17(6) (2021) 3475–3491.
73. Z. Aminifard and S. Babaie–Kafaki, An adaptive descent extension of the Polak–Ribière–Polyak conjugate gradient method based on the concept of maximum magnification, **Iranian Journal of Numerical Analysis and Optimization**, 11(1) (2021) 211–219.
72. Z. Aminifard, S. Babaie–Kafaki and S. Ghafoori, An augmented memoryless BFGS method based on a modified secant equation with application to compressed sensing, **Applied Numerical Mathematics**, 167 (2021) 187–201.
71. Z. Aminifard and S. Babaie–Kafaki, Modified spectral conjugate gradient methods based on the quasi–Newton aspects, **Pacific Journal of Optimization**, 16(4) (2020) 581–594.
70. S. Babaie–Kafaki, A modified scaled memoryless symmetric rank–one method, **Bollettino dell'Unione Matematica Italiana**, 13 (2020) 369–379.
69. S. Babaie–Kafaki and S. Rezaee, A randomized adaptive trust region line search method, **An International Journal of Optimization and Control: Theories & Applications (IJOCTA)**, 10(2) (2020) 259–263.
68. M. Roozbeh, M. Maanavi and S. Babaie–Kafaki, Robust high–dimensional semiparametric regression using optimized differencing method applied to the vitamin B2 production data, **Iranian Journal of Health Sciences**, 8(2) (2020) 9–22.
67. Z. Aminifard and S. Babaie–Kafaki, A restart scheme for the Dai–Liao conjugate gradient method by ignoring a direction of maximum magnification by the search direction matrix, **RAIRO–Operations Research**, 54(4) (2020) 981–991.
66. A. Sorourkhah, S. Babaie–Kafaki, A. Azar and M. Shafiei–Nikabadi, A fuzzy–weighted approach to the problem of selecting the right strategy using the robustness analysis (Case study: Iran Automotive Industry), **Fuzzy Information and Engineering**, 11(1) (2019) 39–53.

65. S. Babaie–Kafaki and Z. Aminifard, Two–parameter scaled memoryless BFGS methods with a nonmonotone choice for the initial step length, **Numerical Algorithms**, 82(3) (2019) 1345–1357.
64. Z. Aminifard and S. Babaie–Kafaki, An optimal parameter choice for the Dai–Liao family of conjugate gradient methods by avoiding a direction of the maximum magnification by the search direction matrix, **4OR–A Quarterly Journal of Operations Research**, 17(3) (2019) 317–330.
63. S. Babaie–Kafaki and S. Rezaee, A randomized nonmonotone adaptive trust region method based on the simulated annealing strategy for unconstrained optimization, **International Journal of Intelligent Computing and Cybernetics**, 12(3) (2019) 389–399.
62. Z. Aminifard and S. Babaie–Kafaki, Matrix analyses on the Dai–Liao conjugate gradient method, **ANZIAM Journal**, 61(2) (2019) 195–203.
61. S. Rezaee and S. Babaie–Kafaki, An adaptive nonmonotone trust region method based on a modified scalar approximation of the Hessian in the successive quadratic subproblems, **RAIRO–Operations Research**, 53 (2019) 829–839.
60. Z. Aminifard and S. Babaie–Kafaki, A modified descent Polak–Ribière–Polyak conjugate gradient method with global convergence property for nonconvex functions, **Calcolo**, 56(2) (2019) 16.
59. S. Babaie–Kafaki, A hybrid scaling parameter for the scaled memoryless BFGS method based on the ℓ_∞ matrix norm, **International Journal of Computer Mathematics**, 96(8) (2019) 1595–1602.
58. S. Rezaee and S. Babaie–Kafaki, An adaptive nonmonotone trust region algorithm, **Optimization Methods and Software**, 34(2) (2019) 264–277.
57. N. Dorostkar–Ahmadi, M. Shafiei–Nikabadi and S. Babaie–Kafaki, Environmental assessment of vehicle lubricants by life cycle assessment approach (in Persian), **Iranian Journal of Health and Environment**, 11(4) (2019) 547–562.
56. S. Babaie–Kafaki and R. Ghanbari, A linear hybridization of the Hestenes–Stiefel method and the memoryless BFGS technique, **Mediterranean Journal of Mathematics**, 15(3) (2018) 86.
55. S. Rezaee and S. Babaie–Kafaki, An adaptive retrospective trust region method based on a hybridization of the monotone and nonmonotone aspects, **Pacific Journal of Optimization**, 14(4) (2018) 621–633.
54. A. Sorourkhah, S. Babaie–Kafaki, A. Azar and M. Shafiei–Nikabadi, Matrix approach to robustness analysis for strategy selection, **International Journal of Industrial Mathematics**, 10(3) (2018) 261–269.
53. S. Babaie–Kafaki and R. Ghanbari, Two adaptive Dai–Liao nonlinear conjugate gradient methods, **Iranian Journal of Science and Technology–Transactions A: Science**, 42(3) (2018) 1505–1509.

52. A. Sorourkhah, A. Azar, S. Babaie–Kafaki and M. Shafiei–Nikabadi, Using weighted–robustness analysis in strategy selection (Case study: Saipa Automotive Research and Innovation Center (in Persian)), **Industrial Management Journal**, 9(4) (2018) 665–690.
51. S. Babaie–Kafaki and S. Rezaee, Two accelerated nonmonotone adaptive trust region line search methods, **Numerical Algorithms**, 78(3) (2018) 911–928.
50. S. Rezaee and S. Babaie–Kafaki, A modified nonmonotone trust region line search method, **Journal of Applied Mathematics and Computing**, 57(1) (2018) 421–436.
49. M. Roozbeh, S. Babaie–Kafaki and A. Naeimi Sadigh, A heuristic approach to combat multicollinearity in least trimmed squares regression analysis, **Applied Mathematical Modelling**, 57 (2018) 105–120.
48. S. Babaie–Kafaki and M.R. Arazm, An extension of a three–term conjugate gradient method based on the objective function values with guaranteeing global convergence without convexity assumption (in Persian), **Journal of Operational Research and its Applications**, 15(1) (2018) 19–28.
47. S. Babaie–Kafaki, A monotone preconditioned gradient method based on a banded tridiagonal inverse Hessian approximation, **UPB Scientific Bulletin–Series A: Applied Mathematics and Physics**, 80(1) (2018) 55–62.
46. S. Babaie–Kafaki and R. Ghanbari, Extensions of the Hestenes–Stiefel and Polak–Ribière–Polyak conjugate gradient methods with sufficient descent property, **Bulletin of the Iranian Mathematical Society**, 43(7) (2017) 2437–2448.
45. M.R. Arazm, S. Babaie–Kafaki and R. Ghanbari, An extended Dai–Liao conjugate gradient method with global convergence for nonconvex functions, **Glasnik Matematicki**, 52(72) (2017) 361–375.
44. S. Babaie–Kafaki and R. Ghanbari, An optimal extension of the Polak–Ribière–Polyak conjugate gradient method, **Numerical Functional Analysis and Optimization**, 38(9) (2017) 1115–1124.
43. S. Babaie–Kafaki and M. Roozbeh, A revised Cholesky decomposition to combat multicollinearity in multiple regression models, **Journal of Statistical Computation and Simulation**, 87(12) (2017) 2291–2297.
42. S. Babaie–Kafaki and R. Ghanbari, A class of adaptive Dai–Liao conjugate gradient methods based on the scaled memoryless BFGS update, **4OR–A Quarterly Journal of Operations Research**, 15(1) (2017) 85–92.
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