

بسمه تعالی

## رزومه<sup>۱</sup>

(۱۳۹۹/۴/۲۱)

### سامان بابایی کفاکی

استاد دانشگاه سمنان - دانشکده ریاضی، آمار و علوم کامپیوتر

آدرس: سمنان- میدان دانشگاه- پردیس شماره ۱ دانشگاه سمنان- دانشکده ریاضی، آمار و علوم کامپیوتر

کدپستی: ۱۹۱۱۱-۳۵۱۳۹

ایمیل: sbk@semna.ac.ir

تلفن: ۰۲۳-۳۱۵۳۵۷۶۱



### سوابق تحصیلی

- کارشناسی:** دانشگاه مازندران (۸۲-۱۳۷۸) - رشته ریاضی کاربردی - معدل: ۱۸/۰۵
- کارشناسی ارشد:** دانشگاه صنعتی شریف (۸۴-۱۳۸۲) - رشته ریاضی کاربردی - معدل: ۱۸/۸۸ (استاد راهنما: دکتر نظام‌الدین مهدوی امیری)
- دکتری:** دانشگاه صنعتی شریف (۸۹-۱۳۸۴) - رشته ریاضی کاربردی - معدل: ۱۸/۰۵ (استاد راهنما: دکتر نظام‌الدین مهدوی امیری)
- علائق پژوهشی:** بهینه‌سازی عددی - محاسبات ماتریسی - رگرسیون آماری - الگوریتم‌های ابتکاری - برنامه‌ریزی با اعداد صحیح و شبکه‌ها

### اهم سوابق اجرایی

- استادیار دانشگاه سمنان از تاریخ ۱۳۸۹/۷/۳ الی ۱۳۹۴/۴/۴
- دانشیار دانشگاه سمنان از تاریخ ۱۳۹۴/۴/۵ الی ۱۳۹۸/۴/۱۱
- استاد دانشگاه سمنان از تاریخ ۱۳۹۸/۴/۱۲ تا کنون
- پژوهشگر غیرمقیم پژوهشگاه دانش‌های بنیادین (IPM) در سال‌های ۹۳-۱۳۹۰
- رئیس گروه هدایت استعدادهای درخشان دانشگاه سمنان از تاریخ ۱۳۹۳/۱۰/۳ تا کنون

### اهم افتخارات آموزشی و پژوهشی

- دانش‌آموخته رتبه اول دوره کارشناسی
- کسب رتبه دوم در آزمون کارشناسی ارشد رشته ریاضی کاربردی در سال ۱۳۸۲

<sup>۱</sup> جزئیات سوابق آموزشی، پژوهشی و اجرایی در رزومه لاتین پیوست آورده شده است.

- دانش آموخته رتبه اول دوره کارشناسی ارشد
- پژوهشگر برتر استان سمنان در رشته ریاضی در سال ۱۳۹۵
- پژوهشگر برتر دانشکده ریاضی، آمار و علوم کامپیوتر دانشگاه سمنان در سال‌های ۱۳۹۱، ۱۳۹۳، ۱۳۹۵ و ۱۳۹۷

### اهم فعالیت‌های پژوهشی

- انتشار ۷۲ مقاله در مجلات علمی-پژوهشی ملی و بین‌المللی
- ارائه ۱۴ مقاله در همایش‌ها و کنفرانس‌های ملی و بین‌المللی
- راهنمایی ۵ دانشجوی دکتری و ۱۲ دانشجوی کارشناسی ارشد در دانشگاه سمنان
- انجام ۲ طرح ملی (با حمایت صندوق حمایت از پژوهشگران و فناوران کشور) و ۱ طرح دانشگاهی
- عضویت در هیات تحریریه مجله علمی-پژوهشی بین‌المللی International Journal of Nonlinear Analysis and Applications

# CURRICULUM VITAE

(1 July 2020)

## Personal Data

### Saman Babaie-Kafaki

Date of Birth: December 29, 1980  
Marital Status: Married, One child  
Nationality: Iranian  
Current Position: Professor



## Contact Information

Department of Mathematics  
Faculty of Mathematics, Statistics and Computer Science  
Semnan University  
P.O. Box: 35195-363  
Semnan, Iran

Phone: +98-23-31535761  
Fax: +98-23-31535757  
Emails: sbk@semnan.ac.ir  
babaiekafaki@gmail.com

## Previous Positions

- Assistant Professor of Semnan University: September 2010–July 2015
- Non-Resident Researcher of IPM: September 2011–September 2014
- Associate Professor of Semnan University: July 2015–July 2019

## Research Interests

- Numerical Optimization
- Matrix Computations
- Metaheuristic Algorithms

## Education

- B.Sc.: Applied Mathematics, Mazandaran University, 1999–2003 (Average: 18.05)
- 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

- 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

## Honors

- Scored first rank among the B.Sc. alumni of Faculty of Mathematical Sciences, Mazandaran University, 2003.
- 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.
- Achieved first rank among the M.Sc. alumni of Faculty of Mathematical Sciences, Sharif University of Technology, 2005.
- The best researcher of the Faculty of Mathematics, Statistics and Computer Science, Semnan University, 2012.
- The best researcher of the Faculty of Mathematics, Statistics and Computer Science, Semnan University, 2014.
- The best researcher of the Faculty of Mathematics, Statistics and Computer Science, Semnan University, 2016.
- The best researcher in the field of Mathematics in Semnan Province, 2016.
- The best researcher of the Faculty of Mathematics, Statistics and Computer Science, Semnan University, 2018.

## Grants

- Talented students grant, Faculty of Mathematical Science, Sharif University of Technology, 2005–2006.
- Hybrid Conjugate Gradient Methods, Institute for Research in Fundamental Sciences (IPM), Grant No. 90900023, 2011–2012.
- Adaptive Nonlinear Conjugate Gradient Methods, Institute for Research in Fundamental Sciences (IPM), Grant No. 91900051, 2012–2013.
- Modified Nonlinear Three–Term Conjugate Gradient Methods for Unconstrained Optimization, Institute for Research in Fundamental Sciences (IPM), Grant No. 93650051, 2014–2015.
- Hybrid Approaches for Solving Large–Scale Unconstrained Nonlinear Optimization Problems, Iranian National Science Foundation (INSF), Grant No. 2014537332, 2016.
- New Approaches in Adaptive Trust Region Methods for Solving Large–Scale Unconstrained Optimization Problems, Iranian National Science Foundation (INSF), Grant No. 95849086, 2018.

- Developing Matrix Approaches for Iterative Methods in Unconstrained Optimization, Iranian National Science Foundation (INSF), Grant No. 96013024, 2018.
- Developing Gradient Based Methods for Optimization, Iranian National Science Foundation (INSF), Grant No. 97022259, 2019.

## Lectures

- Recent Approaches in Nonlinear Conjugate Gradient Methods, Institute for Research in Fundamental Sciences (IPM), February 2015.
- Recent Approaches in Large-Scale Nonlinear Optimization, Semnan University, April 2015.

## Teaching Experiences

- Graduate: Advanced Operations Research, Nonlinear Programming, Advanced Mathematical Programming, Numerical Methods for Decision Making, Numerical Linear Algebra, Advanced Linear Programming, Integer Programming.
- Under Graduate: Calculus (1) and (2), Differential Equations, Operations Research (1) and (2), Linear Programming and Network Flows, Nonlinear Programming, Numerical Linear Algebra, Scientific Computing, Numerical Analysis, Mathematical Softwares.

## Professional Experiences

- Editor of the International Journal of Nonlinear Analysis and Applications from 2012.
- Member of the Research Council of the Faculty of Mathematics, Statistics and Computer Science of Semnan University, 2011–2014.
- Member of the scientific committee of the Third Conference of Financial Mathematics and Applications, Semnan University, 30–31 January 2013, Semnan, Iran.
- Member of the scientific committee of The 7th International Conference of Iranian Operations Research Society, Semnan University, 14–15 May 2014, Semnan, Iran.
- Member of the scientific committee of The 45th Annual Iranian Mathematics Conference, Semnan University, 26–29 August 2014, Semnan, Iran.
- Reviewer of Mathematical Reviews (MathSciNet) from June 2014.
- Administrator of the Office of Talented Students in Semnan University, January 2015–2019.
- Member of the scientific committee of The 8th International Conference of Iranian Operations Research Society, Ferdowsi University of Mashhad, 21–22 May 2015, Mashhad, Iran.
- Member of the committee chairs of International Conference on Test, Measurement and Computational Method (TMCM2015), 22–23 November 2015, Chiang Mai, Thailand.

- Member of the scientific committee of The 1th National Conference on Optimization and Decision Sciences, University of Mazandaran, 9–10 March 2016, Babolsar, Iran.
- Member of the technical program committee of The 6th World Congress on Engineering and Technology (CET2016), 21–23 October 2016, Shanghai, China.
- Member of the technical program committee of the International Conference on Electronic and Information Technology (ICEIT2016), 4–6 November 2016, Guilin, China.
- Member of the scientific committee of The 10th International Conference of Iranian Operations Research Society, University of Mazandaran, 3–4 May 2017, Babolsar, Iran.
- Member of the scientific committee of the International Conference on Modern Research in Science and Engineering in the 21st Century, 8 November 2017, Astra, Iran.
- Member of the program committee of the 7th International Conference on Soft Computing, Artificial Intelligence and Applications (SAI 2018), 14–15 July 2018, Chennai, India.
- Member of the scientific committee of the 2018 International Symposium on Big Data and Applied Statistics (ISBDAS2018), 2–4 November 2018, Guangzhou, China.
- Member of the program committee of the 8th International Conference on Computer Science and Information Technology (CCSIT 2018), 24–25 November 2018, Dubai, UAE.
- Member of the program committee of the 7th International Conference on Data Mining & Knowledge Management Process (DKMP 2019), 13–14 July 2019, Toronto, Canada.
- Member of the scientific committee of the 9th International Conference of Fuzzy Information and Engineering (ICFIAE), 13–15 February 2019, Kish Island, Iran.

## 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: Science, **Computational** and Applied Mathematics, **Iranian** Journal of Numerical Analysis and Optimization, **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, **Ain Shams** Engineering Journal, **Calcolo**, **International** Journal of Computational Methods.

## Ph.D. Students Supervised

- Mohammad Reza Arazm: Using Quasi-Newton Equations in Conjugate Gradient Methods, May 2017. (Joint with Dr. Reza Ghanbari as the advisor)
- Saeed Rezaee: Modified Trust Region Algorithms, October 2017.
- 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)
- 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 first supervisor)
- Zohre Aminifard: Developing Matrix Approaches for Iterative Methods in Unconstrained Optimization, July 2019.

## M.Sc. Students Supervised

1. Esmiaeel Davoudi Nia: A Modified Quasi-Newton Method for Structured Optimization with Partial Information on the Hessian, October 2014.
2. Parisa Abolghasemi: Scaled Conjugate Gradient Algorithms for Unconstrained Optimization, October 2014.
3. Kolsoum Hosseinpour Saloukoliaie: Multistep Nonlinear Conjugate Gradient Methods for Unconstrained Optimization, March 2015.
4. Mazaher Bagheri Sabet Khesmakhi: Some Descent Modified Polak-Ribière-Polyak Conjugate Gradient Methods, September 2015.
5. Shayesteh Moradi: Some Descent Modified Fletcher-Reeves Conjugate Gradient Methods, September 2015.
6. Hossein Mehdizadeh: A Class of Descent Nonlinear Three-Term Conjugate Gradient Methods Based on Secant Conditions, June 2016.
7. Nasrin Mirhosseini: On a Nonlinear Conjugate Gradient Method which is Globally Convergent for Nonconvex Functions, July 2016.
8. Amir Hossein Nafei: On Some Proposed Step Lengths for Improving the Gradient Method, July 2017.
9. Mohammad Hasan Kazemi: On Some Symmetric Rank-One Updates for the Hessian Approximation, July 2017.
10. Babak Shojae-Shafie: On Some Nonmonotone Trust Region Methods with Simple Quadratic Models, April 2018.

11. Jalal Vardan: Studying Global Convergence of the BFGS and PRP Methods under a Modified Wolf Line Search, September 2018.
12. Saeed Ebrahimi: On a Nonmonotone Trust Region Method for unconstrained Optimization, January 2019.

## Journal Articles

1. S. Babaie–Kafaki, R. Ghanbari and N. Mahdavi–Amiri, Two new conjugate gradient methods based on modified secant equations, **Journal of Computational and Applied Mathematics**, 234(5) (2010) 1347–1386.
2. S. Babaie–Kafaki, A modified BFGS algorithm based on a hybrid secant equation, **Science China Mathematics**, 54(9) (2011) 2019–2036.
3. S. Babaie–Kafaki, R. Ghanbari and N. Mahdavi–Amiri, Two effective hybrid metaheuristic algorithms for minimization of multimodal functions, **International Journal of Computer Mathematics**, 88(11) (2011) 2415–2428.
4. S. Babaie–Kafaki, M. Fatemi and N. Mahdavi–Amiri, Two effective hybrid conjugate gradient algorithms based on modified BFGS updates, **Numerical Algorithms**, 58(3) (2011) 315–331.
5. S. Babaie–Kafaki, R. Ghanbari and N. Mahdavi–Amiri, An efficient and practically robust hybrid metaheuristic algorithm for solving fuzzy bus terminal location problems, **Asia–Pacific Journal of Operational Research**, 29(2) (2012) 1–25.
6. S. Babaie–Kafaki, A note on the global convergence theorem of the scaled conjugate gradient algorithms proposed by Andrei, **Computational Optimization and Applications**, 52(2) (2012) 409–414.
7. S. Babaie–Kafaki, A quadratic hybridization of Polak–Ribière–Polyak and Fletcher–Reeves conjugate gradient methods, **Journal of Optimization Theory and Applications**, 154(3) (2012) 916–932.
8. S. Babaie–Kafaki and N. Mahdavi–Amiri, Two modified hybrid conjugate gradient methods based on a hybrid secant equation, **Mathematical Modelling and Analysis**, 18(1) (2013) 32–52.
9. S. Babaie–Kafaki, A new proof for the sufficient descent condition of Andrei’s scaled conjugate gradient algorithms, **Pacific Journal of Optimization**, 9(1) (2013) 23–28.
10. S. Babaie–Kafaki, On the sufficient descent property of the Shanno’s conjugate gradient method, **Optimization Letters**, 7(4) (2013) 831–837.
11. S. Babaie–Kafaki, A hybrid conjugate gradient method based on a quadratic relaxation of Dai–Yuan hybrid conjugate gradient parameter, **Optimization**, 62(7) (2013) 929–941.
12. S. Babaie–Kafaki and M. Fatemi, A modified two–point stepsize gradient algorithm for unconstrained minimization, **Optimization Methods & Software**, 28(5) (2013) 1040–1050.



13. S. Babaie–Kafaki, A modified scaled memoryless BFGS preconditioned conjugate gradient method for unconstrained optimization, **4OR–A Quarterly Journal of Operations Research**, 11(4) (2013) 361–374.
14. S. Babaie–Kafaki, Two modified scaled nonlinear conjugate gradient methods, **Journal of Computational and Applied Mathematics**, 261(1) (2014) 172–182.
15. S. Babaie–Kafaki and R. Ghanbari, A descent family of Dai–Liao conjugate gradient methods, **Optimization Methods & Software**, 29(3) (2014) 583–591.
16. S. Babaie–Kafaki and R. Ghanbari, The Dai–Liao nonlinear conjugate gradient method with optimal parameter choices, **European Journal of Operational Research**, 234(3) (2014) 625–630.
17. S. Babaie–Kafaki, An eigenvalue study on the sufficient descent property of a modified Polak–Ribière–Polyak conjugate gradient method, **Bulletin of the Iranian Mathematical Society**, 40(1) (2014) 235–242.
18. S. Babaie–Kafaki and R. Ghanbari, Two hybrid nonlinear conjugate gradient methods based on a modified secant equation, **Optimization**, 63(7) (2014) 1027–242.
19. S. Babaie–Kafaki and R. Ghanbari, A modified scaled conjugate gradient method with global convergence for nonconvex functions, **Bulletin of the Belgian Mathematical Society–Simon Stevin**, 21(3) (2014) 465–477.
20. S. Babaie–Kafaki, On the sufficient descent condition of the Hager–Zhang conjugate gradient methods, **4OR–A Quarterly Journal of Operations Research**, 12(3) (2014) 285–292.
21. S. Babaie–Kafaki, An adaptive conjugacy condition and related nonlinear conjugate gradient methods, **International Journal of Computational Methods**, 11(4) (2014) 1350092 (18 pages).
22. S. Babaie–Kafaki and R. Ghanbari, Two modified three–term conjugate gradient methods with sufficient descent property, **Optimization Letters**, 8(8) (2014) 2285–2297.
23. S. Babaie–Kafaki and R. Ghanbari, A descent extension of the Polak–Ribière–Polyak conjugate gradient method, **Computers and Mathematics with Applications**, 68(12) (2014) 2005–2011.
24. S. Babaie–Kafaki and R. Ghanbari, A hybridization of the Hestenes–Stiefel and Dai–Yuan conjugate gradient methods based on a least–squares approach, **Optimization Methods & Software**, 30(4) (2015) 673–681.
25. S. Babaie–Kafaki and R. Ghanbari, An extended three–term conjugate gradient method with sufficient descent property, **Miskolc Mathematical Notes**, 16(1) (2015) 45–55.
26. S. Babaie–Kafaki, A modified three–term conjugate gradient method with sufficient descent property, **Applied Mathematics–A Journal of Chinese Universities**, 30(3) (2015) 263–272.
27. S. Babaie–Kafaki and R. Ghanbari, A hybridization of the Polak–Ribière–Polyak and Fletcher–Reeves conjugate gradient methods, **Numerical Algorithms**, 68(3) (2015) 481–495.

28. S. Babaie–Kafaki, On optimality of the parameters of self–scaling memoryless quasi–Newton updating formulae, **Journal of Optimization Theory and Applications**, 167(1) (2015) 91–101.
29. S. Babaie–Kafaki and R. Ghanbari, Two optimal Dai–Liao conjugate gradient methods, **Optimization**, 64(11) (2015) 2277–2287.
30. M. Roozbeh and S. Babaie–Kafaki, Extended least trimmed squares estimator in semiparametric regression models with correlated errors, **Journal of Statistical Computation and Simulation**, 86(2) (2016) 357–372.
31. S. Babaie–Kafaki and R. Ghanbari, Descent symmetrization of the Dai–Liao conjugate gradient method, **Asia–Pacific Journal of Operational Research**, 33(1) (2016) 1650008 (10 pages).
32. M. Fatemi and S. Babaie–Kafaki, Two extensions of the Dai–Liao method with sufficient descent property based on a penalization scheme, **Bulletin of Computational Applied Mathematics**, 4(1) (2016) 7–19.
33. S. Babaie–Kafaki, A modified scaling parameter for the memoryless BFGS updating formula, **Numerical Algorithms**, 72(2) (2016) 425–433.
34. S. Babaie–Kafaki, R. Ghanbari and N. Mahdavi–Amiri, Hybridizations of genetic algorithms and neighborhood search metaheuristics for fuzzy bus terminal location problems, **Applied Soft Computing**, 46(1) (2016) 220–229.
35. S. Babaie–Kafaki, Computational approaches in large–scale unconstrained optimization, In: **Big Data Optimization: Recent Developments and Challenges**, A. Emrouznejad (Ed.), Vol. 18, Springer, Switzerland, pp. 391–417, 2016.
36. S. Babaie–Kafaki and R. Ghanbari, A descent hybrid modification of the Polak–Ribière–Polyak conjugate gradient method, **RAIRO–Operations Research**, 50(3) (2016) 567–574.
37. X.L. Dong, H.W. Liu, Y.B. He, S. Babaie–Kafaki and R. Ghanbari, A new three–term conjugate gradient method with descent direction for unconstrained optimization, **Mathematical Modelling and Analysis**, 21(3) (2016) 399–411.
38. S. Babaie–Kafaki, On optimality of two adaptive choices for the parameter of Dai–Liao method, **Optimization Letters**, 10(8) (2016) 1789–1797.
39. M. Roozbeh, S. Babaie–Kafaki and M. Arashi, A class of biased estimators based on QR decomposition, **Linear Algebra and its Applications**, 508(1) (2016) 190–205.
40. S. Babaie–Kafaki and R. Ghanbari, An adaptive Hager–Zhang conjugate gradient method, **FILOMAT**, 30(14) (2016) 3715–3723.
41. S. Babaie–Kafaki and R. Ghanbari, A class of descent four–term extension of the Dai–Liao conjugate gradient method based on the scaled memoryless BFGS update, **Journal of Industrial and Management Optimization**, 13(2) (2017) 649–658.

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.
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.
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.
45. M.R. Arazm, S. Babaie–Kafaki and R. Ghanbari, An extended Dai–Liao conjugate gradient method with global convergence for nonconvex functions, **Glasnik Matematički**, 52(72) (2017) 361–375.
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.
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.
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.
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.
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.
51. S. Babaie–Kafaki and S. Rezaee, Two accelerated nonmonotone adaptive trust region line search methods, **Numerical Algorithms**, 78(3) (2018) 911–928.
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.
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.
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.

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.
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) Article: 86.
57. N. Dorostkar–Ahmadi, M. Shafiei–Nikabadi and S. Babaie–Kafaki, Environmental assessment of vehicle lubricants by life cycle assessment approach, **Iranian Journal of Health and Environment**, 11(4) (2019) 547–562.
58. S. Rezaee and S. Babaie–Kafaki, An adaptive nonmonotone trust region algorithm, **Optimization Methods & Software**, 34(2) (2019) 264–277.
59. S. Babaie–Kafaki, A hybrid scaling parameter for the scaled memoryless BFGS method based on the  $\ell_\infty$  matrix norm, **International Journal of Computer Mathematics**, 96(8) (2019) 1595–1602.
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) Article: 16.
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.
62. Z. Aminifard and S. Babaie–Kafaki, Matrix analyses on the Dai–Liao conjugate gradient method, **ANZIAM Journal**, 61(2) (2019) 195–203.
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.
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.
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.
66. 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.
67. S. Babaie–Kafaki, A modified scaled memoryless symmetric rank–one method, **Bollettino dell'Unione Matematica Italiana**, DOI: 10.1007/s40574-020-00231-y, 2020.

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- Nezam Mahdavi–Amiri, Professor, Faculty of Mathematical Science, Sharif University of technology, Tehran, Iran, E–mail: nezamm@sharif.edu.
- Sohrabali Yousefi, Professor, Department of Mathematics, Faculty of Mathematical Sciences, Shahid Beheshti University, Tehran, Iran, E–mail: s–yousefi@sbu.ac.ir.
- Mohammad Reza Peyghami, Professor, Department of Mathematics, K.N. Toosi University of Technology, Tehran, Iran, E–mail: peyghami@kntu.ac.ir.