

Curriculum



Nome Name:	SAMAN
Cognome Surname:	BABAIEKAFAKI

ORCID:	0000-0003-0122-8384
Scopus Author ID:	60009914
WOS Author ID:	n.d.
Sito WEB WEB site:	https://www.unibz.it/it/faculties/engineering/academic-staff/person/48578-saman-babaiekafaki

POSIZIONE PROFESSIONALE ATTUALE / CURRENT PROFESSIONAL POSITION:

Posizione attuale Current position:	In Servizio
Qualifica Qualification:	Ricercatore a tempo det.
Ateneo/Ente/Azienda University/Institution/Company:	Libera Università di BOLZANO
Nazione Ateneo/Ente/Azienda University/Institution/Company Country:	ITA
Anno inizio Start Year:	2023
Anno fine End Year:	2026

PRECEDENTI ESPERIENZE LAVORATIVE (ULTIMI 10 ANNI) / PREVIOUS WORK EXPERIENCE (LAST 10 YEARS):

Qualifica Qualification:	Professore Associato (L. 240/10)
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Ateneo/Ente/Azienda University/Institution/Company	Seman University
Posizione Sede Lavorativi (indicare Nazione e Città) Workplace Location (specify Country and City):	IRAN
Anno inizio Start Year:	2015
Anno fine End Year:	2019
Descrizione Description:	

Qualifica Qualification:	Professore Ordinario (L. 240/10)
Ateneo/Ente/Azienda University/Institution/Company	Seman University
Posizione Sede Lavorativi (indicare Nazione e Città) Workplace Location (specify Country and City):	IRAN
Anno inizio Start Year:	2019
Anno fine End Year:	2023
Descrizione Description:	

LINGUE / LANGUAGES:

Lingua Language:	Inglese
Scrittura Writing:	C1
Comunicazione Communication:	C1

Lingua Language:	Italiano
Scrittura Writing:	B1
Comunicazione Communication:	B1

AREA/SETTORE SCIENTIFICO-DISCIPLINARE / AREA/SECTOR SCIENTIFIC-DISCIPLINARY

Area scientifico-disciplinare	Scienze matematiche e informatiche
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Area scientific-disciplinary:	
Area scientifico-disciplinare codice Area scientific-disciplinary code:	01
Settore scientifico-disciplinare codice Sector scientific-disciplinary code:	-Ricerca operativa
Settore scientifico-disciplinare codice Sector scientific-disciplinary code:	-MATH-06/A

**DESCRIZIONE DEI PRINCIPALI RISULTATI SCIENTIFICI
CONSEGUITI NEGLI ULTIMI 10 ANNI (CON ANNESSO ELENCO DI
MASSIMO 10 PUBBLICAZIONI) / DESCRIPTION OF THE MAIN
SCIENTIFIC RESULTS ACHIEVED IN THE LAST 10 YEARS (WITH
ATTACHED LIST OF MAXIMUM 10 PUBLICATIONS):**

Descrizione Description:	<p><i>From a research perspective, Saman Babaie-Kafaki has primarily focused on practical optimization models and limited-memory algorithmic tools designed to address high-dimensional decision-making problems. His research has particularly explored fundamental optimization techniques applied to signal processing, image processing, and data mining. Specifically, he has worked on problems such as sparse signal representation, image denoising, and data compression using the matrix factorizations. He has also developed several memoryless optimization algorithms, with a strong emphasis on achieving a balanced trade-off between computational accuracy and efficiency. These research efforts have resulted in several peer-reviewed journal articles and conference proceedings. Notably, during this period, he has also been invited as a keynote speaker at several international academic events, including (1) APORS Optimization Forum, China, 7 July 2023; (2) 17th International Conference of Iranian Operations Research Society, Kharazmi University, Tehran, Iran, 3-4 July 2024; (3) 55th Annual Iranian Mathematics Conference, Ferdowsi University of Mashhad, Mashhad, Iran, 14-16 August 2024; (4) 9th International Conference on Combinatorics, Cryptography, Computer Science and Computation, Semnan University, Semnan, Iran, 25-26 December 2024. His international recognition is also well established; his research publications reflect strong collaboration with experts from around the world. From an editorial perspective, it is worth noting that he has served as an editor for several well-known international journals, including: (1) Iranian Journal of Numerical Analysis and Optimization, Ferdowsi University of Mashhad, Mashhad, Iran (from January 2023); (2) Numerical Algorithms, Springer (from February 2023); (3) Journal of Applied Mathematics and Computing, Springer (from January 2024); Based on his research and teaching accomplishments, along with his professional and executive experience, Saman Babaie-Kafaki was recently granted the qualification of "Professore Associato" in the field</i></p>
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	<i>of Operations Research by the evaluation committee of the "Abilitazione Scientifica Nazionale" (ASN 2023-25) in March 2025.</i>
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PUBBLICAZIONI / PUBLICATIONS:

Anno della pubblicazione Year of publication:	2025
Citazione Citation:	Dargahi F, Babaiekafaki S, Aminifard Z, Hajian Berenjestanaki M (2025). 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, p. 1-10, ISSN: 0170-4214, doi: 10.1002/mma.10781
Anno della pubblicazione Year of publication:	2024
Citazione Citation:	Dargahi F, Babaie-Kafaki S, Aminifard Z (2024). Eigenvalue Analyses on the Memoryless Davidon-Fletcher-Powell Method Based on a Spectral Secant Equation. JOURNAL OF OPTIMIZATION THEORY AND APPLICATIONS, vol. 200, p. 394-403, ISSN: 0022-3239, doi: 10.1007/s10957-023-02354-6
Anno della pubblicazione Year of publication:	2024
Citazione Citation:	Babaie-Kafaki S, Mirhoseini N, Aminifard Z (2024). A class of CG algorithms overcoming jamming of the iterative solving process and its application in image restoration. JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, vol. 442, p. 1-9, ISSN: 0377-0427, doi: 10.1016/j.cam.2023.115727
Anno della pubblicazione Year of publication:	2023
Citazione Citation:	Aminifard Z, Babaie-Kafaki S (2023). A Nonmonotone ADMM-Based Diagonal Quasi-Newton Update with Application to the Compressive Sensing Problem. MATHEMATICAL MODELLING AND ANALYSIS, vol. 28, p. 673-688, ISSN: 1392-6292, doi: 10.3846/mma.2023.16993
Anno della pubblicazione Year of publication:	2022
Citazione Citation:	Roozbeh M, BabaieKafaki S, Aminifard Z (2022). Improved high-dimensional regression models with matrix approximations applied to the comparative case studies with support vector machines. OPTIMIZATION METHODS & SOFTWARE, vol. 37(5), p. 1912-1929, ISSN: 1055-6788
Anno della pubblicazione	2022

Year of publication:	
Citazione Citation:	BabaieKafaki S, Aminifard Z, Ghafoori S (2022). Nonmonotone diagonally scaled limited-memory BFGS methods with application to compressive sensing based on a penalty model. APPLIED NUMERICAL MATHEMATICS, vol. 181, p. 618-629, ISSN: 0168-9274

Anno della pubblicazione Year of publication:	2022
Citazione Citation:	Aminifard Z, Hosseini A, BabaieKafaki S (2022). Modified conjugate gradient method for solving sparse recovery problem with nonconvex penalty. SIGNAL PROCESSING, vol. 193, 108424, ISSN: 0165-1684

Anno della pubblicazione Year of publication:	2019
Citazione Citation:	Aminifard Z, BabaieKafaki S (2019). 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, vol. 17(3), p. 317-330, ISSN: 1619-4500

Anno della pubblicazione Year of publication:	2016
Citazione Citation:	Roozbeh M, BabaieKafaki S, Arashi M (2016). A class of biased estimators based on QR decomposition. LINEAR ALGEBRA AND ITS APPLICATIONS, vol. 508(1), p. 190-205, ISSN: 0024-3795

Anno della pubblicazione Year of publication:	2018
Citazione Citation:	Roozbeh M, BabaieKafaki S, NaeimiSadigh A (2018). A heuristic approach to combat multicollinearity in least trimmed squares regression analysis. APPLIED MATHEMATICAL MODELLING, vol. 57, p. 105-120, ISSN: 0307-904X

DESCRIZIONE DEI PRINCIPALI PROGETTI DI RICERCA E PREMI CONSEGUITI NEGLI ULTIMI 10 ANNI (CON ANNESSO ELENCO DI MASSIMO 10 RISULTATI, INCLUDENDO, A TITOLO DI ESEMPIO, PRINCIPAL INVESTIGATOR O COORDINATORE LOCALE DI PROGETTI DI RICERCA COMPETITIVI NAZIONALI O INTERNAZIONALI, SIGNIFICATIVI PREMI CONSEGUITI PER LA PROPRIA ATTIVITÀ DI RICERCA)/ DESCRIPTION OF THE MAIN RESEARCH PROJECTS AND AWARDS AWARDED IN THE LAST 10 YEARS (WITH ATTACHED LIST OF MAXIMUM 10 ACHIEVEMENTS, INCLUDING, FOR EXAMPLE, PRINCIPAL INVESTIGATOR OR LOCAL COORDINATOR OF NATIONAL OR

**INTERNATIONAL COMPETITIVE RESEARCH PROJECTS,
SIGNIFICANT AWARDS AWARDED FOR YOUR RESEARCH
ACTIVITY):**

<p>Descrizione Description:</p>	<p><i>It is also noteworthy that from September 2010 to May 2023, Dr. Babaie-Kafaki served as a faculty member in the Faculty of Mathematics, Statistics, and Computer Science at Semnan University, Iran. Notably, from June 2018 to May 2023, he held the position of Full Professor at the same institution. During this 13-year period, he taught a wide range of undergraduate and graduate courses in areas such as Operations Research, Optimization, Scientific Computing, and Matrix Computations. He also supervised 10 Ph.D. students, 15 M.Sc. students, and additionally led two postdoctoral research projects. From 2015 to 2021, he also served as the "Administrator of the Office of Talented Students" at Semnan University, where he successfully organized and managed several academic enrichment programs. Throughout his academic career at Semnan University, Dr. Babaie-Kafaki was repeatedly recognized for his excellence, having been selected multiple times as the Best Researcher, Best Teacher, and Best Administrator at the university level. He was also honored as the Best Researcher of Semnan Province at the statal level. In addition, he was affiliated as a non-resident researcher with the Institute for Research in Fundamental Sciences (IPM)—Iran's leading research institute in basic sciences—between 2011 and 2015. To summarize, Dr. Babaie-Kafaki has published 109 journal articles and 25 conference proceedings or extended abstracts, completed 8 national research projects, and has actively participated in numerous international conferences as a member of the scientific committee.</i></p>
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**DESCRIZIONE DEI PRINCIPALI RISULTATI CONSEGUITI NEGLI
ULTIMI 10 ANNI IN TERMINI DI SVILUPPO DI RETI E RELAZIONI
SCIENTIFICHE NAZIONALI E INTERNAZIONALI (CON ANNESSO
ELENCO DI MASSIMO 5 RISULTATI, INCLUDENDO, A TITOLO DI
ESEMPIO, PARTECIPAZIONE O ORGANIZZAZIONE DI CONVEGNI
NAZIONALI E INTERNAZIONALI; CONTRIBUTI A CONSORZI DI
RICERCA) / DESCRIPTION OF THE MAIN RESULTS ACHIEVED IN
THE LAST 10 YEARS IN TERMS OF DEVELOPMENT OF NATIONAL
AND INTERNATIONAL SCIENTIFIC NETWORKS AND RELATIONS
(WITH ATTACHED LIST OF MAXIMUM 5 RESULTS, INCLUDING,
FOR EXAMPLE, PARTICIPATION OR ORGANIZATION OF
NATIONAL AND INTERNATIONAL CONFERENCES;
CONTRIBUTIONS TO RESEARCH CONSORTIA):**

Descrizione Description:	
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DESCRIZIONE DEI PRINCIPALI RISULTATI CONSEGUITI NEGLI ULTIMI 10 ANNI IN TERMINI DI SUPPORTO ALLA COMUNITÀ SCIENTIFICA (CON ANNESSO ELENCO DI MASSIMO 5 RISULTATI, INCLUDENDO, A TITOLO DI ESEMPIO, RESPONSABILITÀ DI DIREZIONE DI COMITATI EDITORIALI; INCARICHI DI VALUTAZIONE DELLA RICERCA PRESSO ISTITUZIONI NAZIONALI O INTERNAZIONALI; RESPONSABILITÀ ISTITUZIONALI ALL'INTERNO DELL'ISTITUZIONE DI APPARTENENZA O DI ALTRE ISTITUZIONI) / DESCRIPTION OF THE MAIN RESULTS ACHIEVED IN THE LAST 10 YEARS IN TERMS OF SUPPORT TO THE SCIENTIFIC COMMUNITY (WITH ATTACHED LIST OF MAXIMUM 5 RESULTS, INCLUDING, FOR EXAMPLE, MANAGEMENT RESPONSIBILITIES OF EDITORIAL COMMITTEES; RESEARCH EVALUATION ROLES AT NATIONAL OR INTERNATIONAL INSTITUTIONS; INSTITUTIONAL RESPONSIBILITIES WITHIN THE INSTITUTION OF AFFILIATION OR OTHER INSTITUTIONS):

Descrizione Description:	<p><i>It is also noteworthy that from September 2010 to May 2023, Dr. Babaie-Kafaki served as a faculty member in the Faculty of Mathematics, Statistics, and Computer Science at Semnan University, Iran. Notably, from June 2018 to May 2023, he held the position of Full Professor at the same institution. During this 13-year period, he taught a wide range of undergraduate and graduate courses in areas such as Operations Research, Optimization, Scientific Computing, and Matrix Computations. He also supervised 10 Ph.D. students, 15 M.Sc. students, and additionally led two postdoctoral research projects. From 2015 to 2021, he also served as the "Administrator of the Office of Talented Students" at Semnan University, where he successfully organized and managed several academic enrichment programs. Throughout his academic career at Semnan University, Dr. Babaie-Kafaki was repeatedly recognized for his excellence, having been selected multiple times as the Best Researcher, Best Teacher, and Best Administrator at the university level. He was also honored as the Best Researcher of Semnan Province at the stata level. In addition, he was affiliated as a non-resident researcher with the Institute for Research in Fundamental Sciences (IPM)—Iran's leading research institute in basic sciences—between 2011 and 2015. To summarize, Dr. Babaie-Kafaki has published 109 journal articles and 25 conference proceedings or extended abstracts, completed 8 national research projects, and has actively participated in numerous international conferences as a member</i></p>
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	of the scientific committee.
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DESCRIZIONE DEI PRINCIPALI RISULTATI CONSEGUITI NEGLI ULTIMI 10 ANNI IN TERMINI VALORIZZAZIONE DELLE CONOSCENZE (CON ANNESSO ELENCO DI MASSIMO 3 RISULTATI, RELATIVI ALLA PARTECIPAZIONE DEL CANDIDATO ALLE ATTIVITÀ DI VALORIZZAZIONE DELLE CONOSCENZE) / DESCRIPTION OF THE MAIN RESULTS ACHIEVED IN THE LAST 10 YEARS IN TERMS OF KNOWLEDGE VALORIZATION (WITH ATTACHED LIST OF MAXIMUM 3 RESULTS, RELATING TO THE CANDIDATE'S PARTICIPATION IN KNOWLEDGE VALORIZATION ACTIVITIES):

Descrizione Description:	<i>Saman Babaie-Kafaki has also been invited as a keynote speaker at several international academic events, including (1) APORS Optimization Forum, China, 7 July 2023; (2) 17th International Conference of Iranian Operations Research Society, Kharazmi University, Tehran, Iran, 3-4 July 2024; (3) 55th Annual Iranian Mathematics Conference, Ferdowsi University of Mashhad, Mashhad, Iran, 14-16 August 2024; (4) 9th International Conference on Combinatorics, Cryptography, Computer Science and Computation, Semnan University, Semnan, Iran, 25-26 December 2024. His international recognition is also well established; his research publications reflect strong collaboration with experts from around the world. From an editorial perspective, it is worth noting that he has served as an editor for several well-known international journals, including: (1) Iranian Journal of Numerical Analysis and Optimization, Ferdowsi University of Mashhad, Mashhad, Iran (from January 2023); (2) Numerical Algorithms, Springer (from February 2023); (3) Journal of Applied Mathematics and Computing, Springer (from January 2024); Based on his research and teaching accomplishments, along with his professional and executive experience, Saman Babaie-Kafaki was recently granted the qualification of "Professore Associato" in the field of Operations Research by the evaluation committee of the "Abilitazione Scientifica Nazionale" (ASN 2023-25) in March 2025.</i>
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Descrizione Description:	Based on his research and teaching accomplishments, along with his professional and executive experience, Saman Babaie-Kafaki was recently granted the qualification of "Professore Associato" in the field of Operations Research by the evaluation committee of the "Abilitazione Scientifica Nazionale" (ASN 2023-25) in March 2025.
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Informazioni aggiornate alla data di candidatura 07-05-2025

SAMAN BABAIEKAFKI

Il presente curriculum costituisce allegato e parte integrante dell'incarico sottoscritto