Salman Ahmadi-Asl

Research Scientist (Skolkovo Institute of science and technology)

Personal Information

Full name	Salman Ahmadi-Asl
Date of birth	March, 10, 1987
Place of birth	Eilam, Iran
Languages	Persian (Native), English (Fluent)

Contact Information

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Education

(2004-2008) BSc: Razi University, Applied Mathematics, Iran.

(2009-2011) MSc: Tarbiat Modares University, Applied Mathematics, Supervisor (Dr. Mohammad Reza Eslahchi), Advisor (Prof. Mehdi Dehghan, Amirkabir University of Technology (Polytechnic), Tehran).

(2012-2016) PhD: Bahonar University (Rafsanjan Branch), Applied Mathematics, Iran. Supervisor (Dr. Fatemeh Panjeh Ali Beik), Advisor: (Professor Mahmoud Mohseni Moghadam), .

MSc Thesis Title: Jacobi Collocation method for MHD plan and axisymmetric plane near a stagnation point.

PhD Thesis Title: New developments on iterative methods to solve some classes of linear operator equations over quaternions.

Honors

2008 Ranked first BSc student in Applied mathematics, Razi University.

2011 Ranked third student in Applied mathematics, Tarbiat Modares University of Tehran.

2016 Ranked first Student, Outstanding researcher, Bahonar University (Rafsanjan Branch).

Research Interests

Numerical Linear and Multilinear algebra (Iterative schemes for solving Tensor and Quaternion operator equations)

Scientific Computing

Approximation theory

Polynomial approximations

Spectral Methods for PDEs and ODEs

Computer skills

Mathematical softwares (Maple, Matlab), Latex, Office.

Familiar with Toolboxes: qtfm, tensortoolbox, HTD, Tensorlab, TT-Toolbox, Clifford multivector toolbox, lfiss, toolbox for Grassmann manifold computations (best low Rank Tensor Approximation).

Journal Papers

1. Solving bilinear tensor least-squares problem with application to Hemmerstien identification, (2018), Submitted (joint work with Lars Eldén).
2. Conjugate direction algorithm for solving constrained linear operator equations, (2017) Submitted, (joint work with F.P.A. Beik and M. Katgarfard).

13. An efficient iterative algorithm for quaternionic least-squares problems over the generalized η-(anti)-biHermitian matrices, Linear and Multilinear algebra, Linear and Multilinear algebra, (2016), DOI:10.1080/03081087.2016.1255172. ISI-JCR (joint work with F.P.A. Beik).

4. On the iterative refinement of the solution of ill-conditioned linear system of equations, International Journal of computer mathematics, (2016), to appear. ISI-JCR (joint work with F.P.A. Beik and Arezoo Ameri).
5. On the Krylov subspace methods based on tensor format for positive definite Sylvester tensor equations, Numerical linear algebra with applications, (2016), DOI: 10.1002/nla.2033. ISI-JCR (joint work with F.P.A. Beik and Farid Saberi Movahed).
6. An Iterative algorithm for η-(anti)-Hermitian least-squares solutions of quaternion matrix equations, Electronic Journal of Linear Algebra, 30 (2015), 372-401. ISI-JCR (joint work with F.P.A. Beik).
7. Iterative algorithms for least-squares solution of a Quaternion matrix equation, Journal of Applied Mathematics and Computing, (2015), DOI 10.1007/s12190-015-0959-6. Scopus (joint work with F.P.A. Beik).
8. Residual norm steepest descent based iterative algorithms for Sylvester tensor Equations, Journal of Mathematical Modeling, 2 (2014), 55–73. ISC (joint work with F.P.A. Beik).

9. The general shifted Jacobi matrix method for solving generalized pantograph equations, Springer, Comp. Appl. Math. 33 (2014), 781-794. ISI-JCR (joint work with Z. Kalateh Bojdi and A. Aminataei).
10. Rational Laguerre functions, Apllied and Computational mathematics, (2015), 340-740. ISI (joint work with Z. Kalateh Bojdi and A. Aminataei).
11. Solving operator equation by expansion approach, Comuting and Modeling, (2013), Article ID 256786, Hindawi Publishing Corporation, Scopus, (joint work with Z. Kalateh Bojdi and M. Pakbaz).
12. A New Extended Padé Approximation and Its Application, Advances in Numerical Analysis, (2013), Article ID 263467, Hindawi Publishing Corporation, (joint work with Z. Kalateh Bojdi and A. Aminataei).
13. The general Jacobi matrix method for solving some nonlinear ordinary differential equations, Applied Mathematical Modelling, 36 (2012), 3387–3398. ISI-JCR (joint work with M.R. Eslahchi and Mehdi Dehghan).

Conference Papers

1. Solving bilinear least squares problems, The sixth international conference on numerical algebra and scientific computing, 2016, Zhejiang University, Hangzhou, P.R. China, (Speaker), (joint work with Lars Elden).
2. A Preconditioned GAOR Iterative method for solving linear system of equations, The 7th Seminar on Linear Algebra and its Application, 2014, Ferdowsi University of Mashhad, Iran, (Speaker), (joint work with F.P.A. Beik and Nafiseh Naseri Shams).
3. Note to the gradient Iterative algorithm for solving Sylvester tensor equations, The 7th Seminar on Linear Algebra and its Application, 2014, Ferdowsi University of Mashhad, Iran, (Poster), (joint work with F.P.A. Beik).
4. On the Execution and Convergence of GMRESBTF Method for Solving Sylvester Tensor Equations, The 45th Annual Iranian Mathematics conference, 2014, Semnan University, Iran, (Speaker), (joint work with F.P.A. Beik).
5. LSQR algorithm for the least squares solutions of the coupled quaternion matrix equations, The 5th Seminar of Numerical Analysis and its Application, 2014, Vali-e-Asr University of Rafsanjan, Iran, (Speaker), (joint work with F.P.A. Beik).
6. CGLS method for general coupled matrix equations over Quaternions, The 5th Seminar of Numerical Analysis and its Application, 2014, Vali-e-Asr University of Rafsanjan, Iran, (Speaker), (joint work with F.P.A. Beik).
7. An Iterative Algorithm for Hermitian Tridiagonal Least-Squares solutions of Quaternion matrix equations, The 8th Seminar on Linear Algebra and its Applications, 2015, University of Kurdistan, Iran, (Speaker), (joint work with F.P.A. Beik).

Research visitor

Department of Scientific Computing, Linkoping University, Linkoping, Sweden, 2016,

Supervisor: Lars Eldén.

Projects: 1. Solving bilinear least squares problems, 2. Krylov-Type methods for tensor least squares problems, 3. Face recognition via bilinear tensor least squares problems.

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References

1. Professor Andrzej Cichocki, Department of Mathematics, Skoltech University, Moscow, Russia. a.cichocki@riken.jp, A.Cichocki@skoltech.ru, cia@brain.riken.jp.
2. Professor Anh Huy Phan, Department of Mathematics, Skoltech University, Moscow, Russia. a.phan@skoltech.ru.
3. Professor Mehdi Dehghan, Department of Mathematics, Amir-Kabir University, Tehran, Iran. mdehghan@aut.ac.ir, mdehghan.aut@gmail.com, Mehdi_Dehghan@yahoo.com.
4. Professor Mohamad Reza Eslahchi, Department of Mathematics, Tarbiat Modares University, Tehran, Iran. eslahchi@modares.ac.ir.
5. Professor Mahmud Moseni Moghadam, Department of Mathematics, Shahid Bahonar University, Kerman, Iran. Tel: +983431322270, f.beik@vru.ac.ir; beik.fatemeh@gmail.com.
6. Professor Fatemeh Panjeh Ali Beik, Department of Mathematics, Vali-e-Asr University of Rafsanjan, Kerman, Iran. mohseni@uk.ac.ir.