Curriculum Vitae: Hatef Dastour

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Education

- Ph.D., Mathematics and Statistics, University of Calgary — January 2016 - December 2019, Calgary, Canada,
- M.S., Applied Mathematics, Damghan University — September 2010 - September 2012, Damghan, Iran,
- B.S., Applied Mathematics, Payame Noor University — September 2006 - July 2010, Tehran, Iran,

Summary of skills

Mathematician, data scientist, scientific programming, and model creating

Working Experience

- Data Science Developer — January 2020 - March 25, 2020,
  StellarAlgo, Calgary, AB, Canada
  - Designing, developing, and refining predictive models for selected business verticals.
  - Discovering and communicating relevant insights to key stakeholders for smarter decision making.
  - To explore opportunities for combining existing and new data sources to discover insights.
  - Supporting requirements gathering and data engineering efforts related to building analytics data sets.
  - Supporting the product team with analytics.
  - Programming according to project plans (versions, sprints).
  - Participating in data analysis and data architecture direction with valuable client-facing development insights.
  - Collaborating with the team designers to create interfaces.
- Sessional Instructor
  Department of Mathematics and Statistics, University of Calgary, Calgary, AB, Canada
  - MATH 211 - Linear Methods I - Spring 2019
  - MATH 211 - Linear Methods I - Summer 2018
  - MATH 275 - Calculus for Engineers and Scientists - Fall 2017 (Through Instructor Training Program)
- Graduate Teaching Assistant — January 2016 - December 2019,
  Department of Mathematics and Statistics, University of Calgary, Calgary, AB, Canada
  - I have gained teaching experience by doing a graduate teaching assistant for a variate of courses. These courses are Introductory Calculus (MATH 249), University Calculus I (MATH 265), Calculus for Engineers and Scientists (MATH 275), Multivariable Calculus for Engineers (MATH 277), Differential Equations for Engineers and Scientists (MATH 375), Numerical Analysis I (MATH 391), Numerical Analysis I (AMAT 491) and Numerical Analysis II (AMAT 493).
- Graduate Student — January 2016 - December 2019
  Department of Mathematics and Statistics, University of Calgary,

- Developing numerical algorithms for various types of mathematical problems.
- Developing highly accurate numerical solvers for the wave equation in both the time and frequency domain.
- Developing optimal finite difference methods for the Helmholtz equation with PML.

- Research Assistant — February 2012 - May 2015,
  School of Mathematics, Iran University of Science and Technology, Tehran, Iran
  - Developing numerical algorithms for various types of mathematical problems. Including regularization methods, finite difference methods, marching schemes, etc.
  - Investigating the applications of these methods in many industrial problems.
- Graduate Student — September 2010 - August 2012,
  School of Mathematics and Computer science, Damghan University, Damghan, Iran
  - Developing numerical algorithms for various types of mathematical problems. Including regularization methods, finite difference methods, marching schemes, etc.
  - Investigating the applications of these methods in many industrial problems.
- Self-employed Mathematics Tutor — October 2010 - August 2015,
  Tehran, Iran

Computer Skills

- Proficiency with computer programming including MATLAB, Python, R, Julia Programming, and others.
- Proficiency with SQL Server Analysis Services (SSAS).
- Proficiency with office applications, such as Microsoft Office, LaTeX editors, and more.
- Proficiency with advanced graphical applications, such as Adobe Photoshop, 3D Studio Max, Blender, and more.
- Proficiency with Microsoft Windows, mac-OS, and various Linux distributions.

Group Projects

- 2016 Graduate Mathematical Modelling in Industry Workshop, University of British Columbia, Vancouver, BC, Canada, August 08, 2016 - August 13, 2016,

  Project: Modelling the performance of the rechargeable Li-Ion batteries,

- 2016 Industrial Problem Solving Workshop, University of Toronto, Toronto, ON, Canada, August 15, 2016 - August 19, 2016,

  Project: How to combine two relative rankings of credit risk into one ranking?
  by Internal Ratings Management, Global Risk Management, Scotiabank.

Awards

- Awards at University of Calgary:
  - PIMS Doctoral Recruitment Scholarship. Amount: 10,000.00 C$ — 2015–2016
  - Eric Milner Graduate Scholarship. Amount: 5,500.00 C$ — 2016–2017
  - Alberta Innovates Graduate Student Scholarship. Amount: 31,500.00 C$ — 2017–2018
  - Alberta Innovates Graduate Student Scholarship. Amount: 31,500.00 C$ — 2018–2019
- Travel Awards:
  - 2016 CMS Summer Meeting, University of Alberta, Edmonton, AB — June 2016
  - 2016 Graduate Mathematical Modelling in Industry Workshop, Vancouver, BC — August 2016
  - 2016 Industrial Problem Solving Workshop, Toronto, ON — August 2016

Journal Publications

1. **H. Dastour** and W. Liao. "An optimal 13-point finite difference scheme for the Helmholtz equation with PML". *Numerical Algorithms*, 2020.

2. **H. Dastour** and W. Liao. "A generalized optimal fourth-order finite difference scheme for a 2D Helmholtz equation with the perfectly matched layer boundary condition". *arXiv preprint arXiv: 1908.07403*, 2019. (Preprint is under review by an Elsevier journal).

3. **H. Dastour** and W. Liao. "A fourth-order optimal finite difference scheme for the Helmholtz equation with PML". *Computers & Mathematics with Applications*, 6(78):2147–2165, 2019.

4. W. Liao, P. Yong, **H. Dastour**, and J. Huang. "Efficient and accurate numerical simulation of acoustic wave propagation in a 2d heterogeneous media". *Applied Mathematics and Computation*, 321:385–400, 2018.

5. M. Garshasbi and **H. Dastour**. "A mollified marching solution of an inverse ablation-type moving boundary problem". *Computational and Applied Mathematics*, 35(1):61–73, 2016.

6. M. Garshasbi and **H. Dastour**. "Estimation of unknown boundary functions in an inverse heat conduction problem using a mollified marching scheme". *Numerical Algorithms*, 68(4):769–790, 2015.

7. M. Garshasbi and **H. Dastour**. "Proportional factors estimation in an IHCP". *Journal of Hyperstructures*, 3(1):53–67, 2014.

8. M. Garshasbi, **H. Dastour**, and M. Jalalvand. "A stable numerical solution of an inverse moving boundary problem of heat conduction using discrete mollification approach". *Advances in Mathematical Modeling*, 2(1):47–60, 2012.

9. M. Garshasbi, P. Reihani, and **H. Dastour**. "A stable numerical solution of a class of semi-linear Cauchy problems". *Journal of Advanced Research in Dynamical and Control Systems*, 4:56–67, 2012.

* It is customary in my country of origin, Iran, to see graduate students' names after their supervisor(s) names on research papers.

Selected Presentations

1. H. Dastour, "Computational Methods for Solving Wave Equation Inverse Problem", Eric Milner Colloquium, University of Calgary, Calgary, AB, Canada, October 14, 2016 (Colloquium Presentation).

2. H. Dastour, "A stabilized marching scheme for solving the inverse problem of degenerate diffusion model", the Canadian Society of Applied and Industrial Mathematics (CAIMS 2016), University of Alberta, Edmonton, AB, Canada, June 28, 2016 (Conference Presentation).

3. H. Dastour, "A numerical estimation approach for an inverse heat conduction problem", 2016 CMS Summer Meeting, University of Alberta, Edmonton, AB, Canada, June 24, 2016 (Conference Presentation).

4. H. Dastour, "A Computational Method for Solving an Inverse Heat Conduction Problem", 2016 CMS Summer Meeting, University of Alberta, Edmonton, AB, Canada, June 25, 2016 (Conference Poster Presentation).

5. H. Dastour, "A mollified marching solution of an inverse degenerate diffusion problem in petroleum reservoir", Alberta Mathematics Dialogue 2016, Mount Royal University, Calgary, AB, Canada, April 29, 2016 (Conference Presentation).

Certifications

- Recognition of outstanding efforts and accomplishments on behalf of the SIAM Chapter at the University of Calgary, Canada.
- Recognition of the Completion of the Instructional Skills Workshop (ISW).
- Certificate of Appreciation for having made valuable contributions to the June 2016 Convocation Ceremonies.

Professional Services and Committees

- Contribution to 2018 Industrial Problem Solving Workshop (IPSW), University of Calgary
  Calgary, Canada August 19, 2018 - August 24, 2018,
- Serving on Mathematics and Statistics (MTST) Head Search Committee, University of Calgary
  Calgary, Canada March 2018,
- Instructor of Programming Workshop at 2017 CMS Math Camp (Alberta), University of Calgary
  Calgary, Canada July 2017,
- Contribution to the June 2016 convocation ceremonies, University of Calgary
  Calgary, Canada June 2016,
- The vice-president academic of Graduate University Mathematics Society (GUMS), University of Calgary
  Calgary, Canada September 2016 - September 2018,
- The representative of graduate students of the Department of Mathematics and Statistics in the Graduate Committee of the department, University of Calgary
  Calgary, Canada October 2016 - September 2018,
- The president of University of Calgary SIAM Student Chapter, University of Calgary
  Calgary, Canada January 2017 - September 2018,
- Organizer of the University of Calgary Chapter of SIAM Biweekly Seminar Series
  Calgary, Canada February 2017 - April 2018,
- Organizer of Calgary Applied and Industrial Mathematical Sciences Conference
  Calgary, Canada May 21, 2017 - May 22, 2017.

Languages

English and Persian