Md Sarowar Morshed

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Education

f Academic Qualifications.....

- Northeastern University
- PhD, Industrial Engineering (Operations Research)
- University of Central Florida M.S., Applied Mathematics
- Bangladesh University of Engineering & Technology Bachelor of Engineering, Industrial & Production Engineering

Boston, MA 2017-present

Orlando, FL 2015-2017

Dhaka, Bangladesh 2009-2014

- Relevant Coursework.....
- o Advanced Linear Algebra, Mathematical Analysis I & II, Scientific Computing, Applied Numerical Analysis, Probability & Statistics, Ordinary & Partial Differential Eqs., Applied Harmonic Analysis, Integral Eq. & Calculus of Variation, Linear Programming & Extensions, Convex Optimization, Probabilistic Operations Research, Logistics, Warehousing and Scheduling, Network Analysis & Advanced Optimization, Machine Learning, Data Mining, Neural Networks & Deep Learning.

Publications

o Published Papers

- 1. Md Sarowar Morshed, Md Saiful Islam and Md Noor-E-Alam, Sampling Kaczmarz Motzkin Method for Linear Feasibility Problems: Generalization & Acceleration, Mathematical Programming (accepted for publication), Mar 2021, arXiv:2002.07321.
- 2. Md Sarowar Morshed and Md Noor-E-Alam, Generalized Affine Scaling Algorithms for Linear Programming Problems, Computers & Operations Research 114, Jan 2020.
- 3. Md Sarowar Morshed, Md Saiful Islam and Md Noor-E-Alam, Accelerated Sampling Kaczmarz Motzkin Algorithm for Linear Feasibility Problem, Journal of Global Optimization, Oct 2019.
- 4. Md Saiful Islam, Md Sarowar Morshed, Gary J. Young and Md. Noor-E-Alam, Robust policy evaluation from large-scale observational studies, PLOS ONE, 14:1-19, Oct 2019.
- 5. Mozammel Mia, Md Sarowar Morshed et. al, Prediction and optimization of surface roughness in minimum quantity coolant lubrication applied turning of high hardness steel, Measurement, Volume 118, 2018.
- 6. Md Sarowar Morshed, A Generalized Inverse Binomial Summation Theorem and Some Hyper-geometric Transformation Formulas, International Journal of Combi-

natorics, 2016.

- 7. Md Sarowar Morshed, Generalization of a class of logarithmic integrals, Integral Transforms and Special Functions, Volume 26, 2015.
- 8. Md Sarowar Morshed, Generalization of harmonic sums involving inverse binomial coefficients, Integral Transforms and Special Functions, Volume 25, 2014.

o Under Review Papers

- 1. Md Sarowar Morshed and Md Noor-E-Alam, Heavy Ball Momentum Induced Sampling Kaczmarz Motzkin Methods for Linear Feasibility Problems, *INFORMS Journal On Computing (major revision), Sept 2020, arXiv:2009.08251.*
- 2. Md Sarowar Morshed and Md Noor-E-Alam, Sketch & Project Methods for Linear Feasibility Problems: Greedy Sampling & Momentum, SIAM Journal On Optimization (under review), Nov 2020.
- 3. Md Sarowar Morshed, Sabbir Ahmad and Md Noor-E-Alam, Stochastic Steepest Descent Methods for Linear Systems: Greedy Sampling & Momentum, Journal of Machine Learning Research (submitted), Dec 2020.
- 4. Md Saiful Islam, Md Sarowar Morshed and Md Noor-E-Alam, Algorithms for Solving Nonlinear Binary Optimization Problems in Robust Causal Inference, *INFORMS Journal On Computing (under review)*, Jan 2021.
- 5. Md Sarowar Morshed, Chrysafis Vogiatzis and Md Noor-E-Alam, A Primal-Dual Interior Point Method for a Novel Type-2 Second Order Cone Optimization Problem, Results In Control & Optimization, 2021, (under review), arXiv:1805.00591.

• Technical Reports

1. Md Sarowar Morshed, Logarithmic Integrals: A Review from Gradshteyn and Ryzhik to Recent Times, *arXiv:2002.03250, Feb 2020.*

★ Awards & Grants

| 0 | Ferretti & Yamamura Award for Excellence in Research Department of Mechanical & Industrial Engineering | Nor | theastern University Spring 2020 |
|---|---|--------------|---|
| 0 | Chairs Fellowship Award Department of Mechanical & Industrial Engineering | Nor | theastern University Fall 2017 |
| 0 | Travel Grant, Summer School Orthogonal Polynomials and Special Functions Summer School OF | Un PSF-S6 | iversity of Maryland Summer 2, 2016 |
| 0 | Travel Grant, Abecederian of SIDE 12 Summer School Symmetries and Integrability of Difference Equations | Un | iversité de Montréal Summer 1, 2016 |
| 0 | Graduate Teaching Assistantship Department of Mathematics | Universi | ty of Central Florida Fall 2015–May 2017 |

Employment History

| \sim | Mechanical & Industrial Engineering Department | Northeastern University, Boston, MA |
|--------|--|-------------------------------------|
| | Graduate Research Assistant | September 2017– |

I am currently working as a graduate research assistant at the *Mechanical & Industrial Engineering Department* at Northeastern University.

Mathematics Assistance & Learning Lab

Math Tutor

I worked as a teaching assistant in the *Mathematics Dept*. Part of my job was to work was to teach calculus, algebra and ordinary differential equations to undergraduate students. I also worked as a tutor at *Mathematics Assistance & Learning Lab* teaching trigonometry, algebra and pre-calculus to undergraduate students.

A Plus Group of Industries Limited

Jr. Production Manager

I worked as a junior production manager. I was responsible for handling data analysis using *SAP* software. The other responsibility included designing optimization models for the production management department.

ILO-BGMEA-BUET "Fire Safety Assessment Project"

Project Engineer

I worked on the project titled "Fire Safety Assessment" as a project engineer. The project was on inspection in the garments industry of Bangladesh. The main task was to inspect the present condition of the garments industries of Bangladesh and submitting a fire safety assessment report to *ILO*.

Square Pharmaceuticals

° Intern

I worked as an industrial engineering intern part of my industry attachment course during my undergraduate study. Part of my task was to develop & implement scheduling algorithms for the production process.

Professional Activities

Technical Reviewer.

- Omega: The International Journal of Management Science (Elsevier)
- Applied Numerical Mathematics (Elsevier)
- Computers & Operations Research (Elsevier)
- Computers & Industrial Engineering (Elsevier)
- Linear Algebra and Its Applications (Elsevier)
- Calcolo (Springer)

Carteria and Personal skills

- **Programming Languages:** Python = Matlab = R > C++ > AMPL > Julia = SQL = Maple.
- Industry Software Skills: Tableau = Arena = Simio = SolidWorks = Ansys = Auto-Cad.
- o Personal Skills & Hobbies: Computer Chess (Leela Chess Zero), Sudoku, Math Olympiad

University of Central Florida, Orlando, FL

August 2015–May 2017

Dhaka, Bangladesh

March 2015–May 2015

Dhaka, Bangladesh

Dhaka, Bangladesh

October 2014–January 2015

August 2011–September 2011