

# Priyanka Mishra

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## **EDUCATION**

### **Ph.D., Mathematics, Indian Institute of Technology Patna**

Thesis Title: *On the Equivalence between Generalized Vector Variational Inequalities and Nonsmooth Interval-Valued Multiobjective Optimization Problems*

**Thesis Advisor:** Dr. B.B. Upadhyay, Assistant Professor, Indian Institute of Technology Patna

### **M.Sc., Mathematics, Indian Institute of Technology Bhubaneswar, 2017**

CGPA-9.53 (silver medalist)

### **National Level Exam Qualified**

GATE 2018: **AIR-235**

CSIR-NET(JRF) 2018: **AIR-136**

## **MEMBERSHIPS OF PROFESSIONAL BODIES**

- Indian Mathematical Society
- Working Group on Generalized Convexity

## **RELEVANT SKILLS**

- Programming ability in C++ and MATLAB

## **AWARDS / HONORS**

Received Silver Medal in M.Sc. for securing first rank in the Department of Mathematics, IIT Bhubaneswar

## **TUTORIALS TAKEN:**

MA102, Linear Algebra and ODE, B.Tech. 2020

MA425, Real Analysis, M.Sc. 2021

MA102, Linear Algebra and ODE, B.Tech. 2021

## **PEER REVIEWED PUBLICATIONS**

### ***Journal Publications***

- B.B. Upadhyay, I.M. Stancu-Minasian, and **Priyanka Mishra**. "On Relations between Nonsmooth Interval-Valued Multiobjective Programming Problems and Generalized Stampacchia Vector Variational Inequalities", **Optimization (Accepted)**, DOI:10.1080/02331934.2022.2069569, IF: 2.360
- S. Treanta, **Priyanka Mishra** and B.B. Upadhyay. (2022). "Minty Variational Principle for Nonsmooth Interval-Valued Vector Optimization Problems on Hadamard Manifolds." **Mathematics**, volume 10, 523. IF: 2.258
- B.B. Upadhyay, **Priyanka Mishra** and R.N. Mohapatra. (2022). "On Relations between Nonsmooth Interval-Valued Vector Optimization Problems and Vector Variational Inequalities on Hadamard Manifolds." **PanAmerican Mathematical Journal**, volume 25, 1-16.
- B.B. Upadhyay, I.M. Stancu-Minasian, **Priyanka Mishra** and R.N. Mohapatra. (2022). "On Generalized Vector Variational Inequalities and Nonsmooth Vector Optimization Problems on Hadamard Manifolds Involving Geodesic Approximate Convexity." **Advances in Nonlinear Variational Inequalities**, volume 25, 1-25.
- B.B. Upadhyay and **Priyanka Mishra**. (2020). "On Generalized Minty and Stampacchia Vector Variational-Like Inequalities and Nonsmooth Vector Optimization Problem Involving Higher Order Strong Invexity." **Journal of Scientific Research, Benaras Hindu University**, volume 64, 182-191.

### ***Conference Papers/Book Chapters***

- B.B. Upadhyay, **Priyanka Mishra**, R.N. Mohapatra and S.K. Mishra, "On the Applications of Nonsmooth Vector Optimization Problems to Solve Generalized Vector Variational Inequalities using Convexificators" In: H. Le Thi, H. Le and T. Pham Dinh (eds.) Optimization of Complex Systems: Theory, Models, Algorithms and Applications. WCGO 2019. Advances in Intelligent Systems and Computing. Vol.991, Springer, Cham, 2020, pp. 660-671.
- B.B. Upadhyay and **Priyanka Mishra**, "On Vector Variational Inequalities and Vector Optimization Problems" In: M. Pant, T.K. Sharma, R. Arya, B. Sahana and H. Zolfagharinia (eds.) Soft Computing: Theories and Applications, Advances in Intelligent Systems and Computing. Vol. 1154, Springer, Singapore, 2020, pp. 257-267.
- B.B. Upadhyay and **Priyanka Mishra**, "On Minty Variational Principle for Nonsmooth Interval-Valued Multiobjective Programming Problems" In: V. Laha, P. Marechal and

S.K. Mishra (eds.) Indo-French Seminar on Optimization, Variational Analysis and Applications. Vol. 335, Springer, Singapore, 2020, pp. 265-282.

- B.B. Upadhyay and **Priyanka Mishra**, “On Generalized Vector Variational-Like Inequalities and Nonsmooth Multiobjective Programming Problems Using Limiting Subdifferential” In: R.N. Mohapatra, S. Yuges, G. Kalpana and C. Kalaivani (eds.) Mathematical Analysis and Computing. ICMAC 2019. Springer Proceedings in Mathematics & Statistics, Vol. 344, Springer, Singapore, 2021, pp. 443-458.
- B.B. Upadhyay and **Priyanka Mishra**, “On Interval-Valued Multiobjective Programming Problems and Vector Variational-Like Inequalities Using Limiting Subdifferential” In: S. Patnaik, K. Tajeddini and V. Jain (eds.) Computational Management, Springer, Cham, 2021, pp. 325-343.
- B.B. Upadhyay, I.M. Stancu-Minasian, S. Sain and **Priyanka Mishra**. (accepted) “Generalized Minty and Stampacchia Vector Variational-like Inequalities and Interval valued vector Optimization Problems” In: A. Jayswal and T. Antczak (eds.) Continuous Optimization and Variational Inequalities, CRC Press.

#### **PRESENTATIONS IN NATIONAL AND INTERNATIONAL CONFERENCES**

- Presented research paper entitled “On Generalized Vector Variational-Like Inequalities and Nonsmooth Multiobjective Programming Problems Using Limiting Subdifferential” in “International Conference on Mathematical Analysis and Computing 2019 (ICMAC 2019)” at SSN College of Engineering, Kalavakkam, Tamil Nadu held on 23-24 December 2019.
- Presented research paper entitled “On Vector Variational Inequalities and Nonsmooth Vector Optimization Problem Involving Higher Order Strong Convexity” in “Indo-French Seminar on Optimization, Variational Analysis and Applications 2020 (IFSOVAA 2020)” at Banaras Hindu University, Varanasi, Uttar Pradesh held on 02-04 February 2020.
- Presented research paper entitled “On Minty Variational Principle for Nonsmooth Interval-Valued Multiobjective Programming Problem” in a special session on “Optimal Methods in Applicable Analysis: Approximation and Optimization, Cyber Security and Geometric Function Theory” in “The Joint Mathematical Meetings 2021” at Washington DC, USA (presented virtually) held on 06-09 January 2021.
- Presented research paper entitled “A Proximal Neurodynamic Model for Solving Mixed Variational Inequalities Involving  $\alpha$ -Monotone Proximal Operator” in “My Research in 3 Minutes” in “Research Scholars Day 2021” at IIT Patna, Bihar held on 20 March 2021.
- Presented research paper entitled “On Generalized Vector Variational-Like Inequalities and Nonsmooth Vector Optimization Problems” in “National Mathematics Day” at IIT Patna, Bihar held on 22 December 2021.

**INVITED TALK**

- Presented talk entitled “Linear Programming Problem with MATLAB” in “WNVIA2021” at Manav Rachna University held on 22-26 March 2021.

**WORKSHOPS / CERTIFICATIONS/ SEMINARS**

- On Recent Trends in Convex Optimization: Theory, Algorithms and Applications (RTCOTAA-2020), IIT Patna, 29-31 October 2020

Date: 06/05/2022

Place: Patna