

Ritwick Mishra

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EDUCATION	Ph.D. in Computer Science <i>University of Virginia, Charlottesville</i> Advisor: Prof. Anil Vullikanti	Jan 2023–Dec 2027 (exp.)
	M.S. in Computer Science <i>University of Virginia, Charlottesville</i> Advisor: Prof. Anil Vullikanti & Abhijin Adiga Thesis: Reconstructing an Epidemic Outbreak using Steiner Connectivity	Aug 2021–Dec 2022
	B.Tech. in Computer Science <i>National Institute of Technology Karnataka, Surathkal, India</i>	2015–2019
RESEARCH INTERESTS	AI for multi-agent systems, Network science, Graph mining, with applications in public health and epidemiology. Recent focus is on spreading processes on networks to improve epidemiological surveillance.	
RESEARCH EXPERIENCE	Graduate Research Program (GRO) <i>Oak Ridge National Laboratory</i> Mentor: Sudip Seal	Jun 2024–Aug 2024
	Graduate Student Researcher <i>Biocomplexity Institute, University of Virginia</i>	Aug 2021–Dec 2022
PUBLICATIONS	<p>R. Mishra, A. Adiga, M. Marathe, S. S. Ravi, R. Tandon, A. Vullikanti. Information Theoretic Optimal Surveillance for Epidemic Prevalence in Networks. <i>AAAI 2026</i>.</p> <p>R. Mishra, J. Heavey, G. Kaur, A. Adiga, A. Vullikanti. Reconstructing an Epidemic Outbreak Using Steiner Connectivity. <i>AAAI 2023</i>.</p> <p>R. Mishra, S. Eubank, M. Nath, M. Amundsen, A. Adiga. Community Detection Using Moore-Shannon Network Reliability: Application to Food Networks. <i>Complex Networks and Their Applications 2022</i>.</p> <p>J. Ma, C. Chen, A. Vullikanti, R. Mishra, G. Madden, D. Borrajo, J. Li. A Look into Causal Effects under Entangled Treatment in Graphs: Investigating the Impact of Contact on MRSA Infection. <i>KDD 2023</i>.</p> <p>S. Schoch, R. Mishra, Y. Ji. Data Selection for Fine-tuning Large Language Models Using Transferred Shapley Values. <i>arXiv:2306.10165</i>.</p> <p>R. Mishra, S. Seal. Efficient Scalable Contact Network Generation from Population Data. <i>OSTI ID:2472688</i>.</p>	

TEACHING**Teaching Assistant**

- o AI for Digital Health
- o Artificial Intelligence
- o SP, ML and Control
- o Foundations of Data Analysis

Fall 2025
Spring 2025
Fall 2024
Spring 2024

SKILLS

Programming: Python, C++

Tools: PyTorch, Gurobi, PyG

Languages: English, Odia