

## Subhankar Ghosh

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CONTACT INFORMATION	Computer Science Department 200 Union St SE Minneapolis, MN 55455	Email: ghosh117@umn.edu Website: subhankarghosh.github.io
RESEARCH FOCUS	Generative AI, Spatial Statistics, Machine Learning, Data Mining, Anomaly Detection	
EDUCATION	<b>University of Minnesota</b> , Twin Cities <i>Ph.D. Candidate in Computer Science</i> <i>Advisor: Prof. Shashi Shekhar</i> <b>University of Minnesota</b> , Twin Cities <i>MS in Computer Science</i>	2019 - 2025
APPOINTMENTS	<b>University of Minnesota</b> Twin Cities, MN <i>Graduate Research &amp; Teaching Assistant</i> <b>Oracle</b> Bengaluru, India <i>Software Test Engineer</i>	2018 - Present 2015 - 2017
RELEVANT PROJECTS	<b>Project:</b> Statistically Significant Regional/Taxonomy-aware Co-location Pattern Detection <ul style="list-style-type: none"><li>Analyzed <i>location patterns</i> of retail establishments in MN using <i>Safegraph POI dataset</i></li><li>Proposed an approach for mining statistically significant regional co-location patterns that reduce spurious pattern detection</li><li>Proposed an approach to address multiple comparisons problem &amp; reduce <i>Type-I errors</i>.</li></ul> <b>Project:</b> Reducing Uncertainty in Sea-level prediction using <i>Spatial-variability</i> aware models <ul style="list-style-type: none"><li>Analyzed historical sea-level data from CMIP-6 simulation models.</li><li>Proposed a <i>spatial-variability</i> aware model to improve regional sea-level prediction</li><li>Proposed a new framework to combine a generative model with geostatistical techniques for improved climate downscaling.</li></ul>	
SELECT PUBLICATIONS	<p>[1] Towards Kriging-informed Conditional Diffusion for Regional Sea-Level Data Downscaling. <b>Subhankar Ghosh et al.</b> In <i>32nd ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2024)</i></p> <p>[2] Towards Statistically Significant Taxonomy Aware Co-location Pattern Detection. <b>Subhankar Ghosh et al.</b> In <i>16th Conference on Spatial Information Theory (COSIT), 2024.</i></p> <p>[3] Reducing False Discoveries in Statistically-Significant Regional-Colocation Mining: A Summary of Results. <b>Subhankar Ghosh et al.</b> In <i>12th International Conference on Geographic Information Science (GIScience 2023)</i></p> <p>[4] Reducing Uncertainty in Sea-level Rise Prediction: A Spatial-variability-aware Approach. <b>Subhankar Ghosh et al.</b> In <i>I-GUIDE Forum, 2023</i></p> <p>[5] Physics-based Abnormal Trajectory Gap Detection. Arun Sharma, <b>Subhankar Ghosh</b>, Shashi Shekhar. In <i>Transactions on Intelligent Systems and Technology (TIST), 2024</i></p>	
TEACHING EXPERIENCE	<b>CSCI 5715 Spatial Data Science</b> <b>CSCI 5511 – Artificial Intelligence I</b> <b>CSCI 1933 Introduction to Data Structures and Algorithms</b> <i>Graduate Teaching Assistant</i>	
SERVICE	<b>Reviewer</b> SIGSPATIAL, SSTD, AGILE, Geoinformatica	