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PATENTS	<ul style="list-style-type: none"> <li>• Classification of ultra-skewed data. (Application number US 15/137,603)</li> </ul>
JOURNAL PUBLICATIONS	<ol style="list-style-type: none"> <li>1. <b>G. Nayak</b>, S. Dutta, D. Ajwani, P. Nicholson, and A. Sala. “Automated assessment of knowledge hierarchy evolution: comparing directed acyclic graphs.” Information Retrieval Journal (2019)</li> <li>2. V. Mithal*, <b>G. Nayak*</b>, A. Khandelwal, V. Kumar, N. Oza, R. Nemani, “Mapping Burned Areas in Tropical Forests Using a Novel Machine Learning Framework”. Remote Sensing 2018, 10, 69. (* - <b>equal contribution</b>)</li> <li>3. V. Mithal, <b>G. Nayak</b>, A. Khandelwal, V. Kumar, N. Oza, R. Nemani, “RAPT: Rare class prediction in absence of true labels”. IEEE Transactions on Knowledge and Data Engineering 2017, 29(11), 2484-2497.</li> </ol>
REFEREED CONFERENCE AND WORKSHOP PUBLICATIONS	<ol style="list-style-type: none"> <li>1. <b>G. Nayak</b>, R. Ghosh, X. Jia, V. Mithal, V. Kumar “Semi-supervised classification using attention-based regularization on coarse-resolution data”. in Proceedings of the 2020 SIAM International Conference on Data Mining (SDM20)</li> <li>2. <b>G. Nayak</b>, R. Ghosh, X. Jia, V. Mithal, V. Kumar “Spatio-temporal classification at multiple resolutions using multi-view regularization” in Proceedings of the 2019 IEEE International Conference on Big Data (IEEE BigData 2019)</li> <li>3. X. Jia, <b>G. Nayak</b>, A. Khandelwal, A. Karpatne, V. Kumar “Classifying Heterogeneous Sequential Data by Cyclic Domain Adaptation: An Application in Land Cover Detection” in Proceedings of the 2019 SIAM International Conference on Data Mining (SDM19)</li> <li>4. X. Jia, S. Li, A. Khandelwal, <b>G. Nayak</b>, A. Karpatne, V. Kumar “Spatial Context-Aware Networks for Mining Temporal Discriminative Period in Land Cover Detection” in Proceedings of the 2019 SIAM International Conference on Data Mining (SDM19)</li> <li>5. <b>G. Nayak</b>, S. Dutta, D. Ajwani, P. Nicholson, A. Sala “Automated Knowledge Hierarchy Assessment” in the Second Workshop on Knowledge Graphs and Semantics for Text Retrieval, Analysis, and Understanding (KG4IR). Co-located with SIGIR 2018</li> <li>6. <b>G. Nayak</b>, V. Mithal, X. Jia, V. Kumar “Classifying multivariate time series by learning sequence-level discriminative patterns” in proceedings of the 2018 SIAM International Conference on Data Mining (SDM18)</li> <li>7. X.Jia, A. Khandelwal, <b>G. Nayak</b>, J. Gerber, K. Carlson, P. West, V. Kumar “Incremental dual-memory lstm in land cover prediction.” in proceedings of the 23rd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD 2017)</li> <li>8. X.Jia, A. Khandelwal, <b>G. Nayak</b>, J. Gerber, K. Carlson, P. West, V. Kumar “Predict Land Covers with Transition Modeling and Incremental Learning” in proceedings of the 2017 SIAM International Conference on Data Mining (SDM17)</li> <li>9. <b>G. Nayak</b>, V. Mithal, V. Kumar, “Multiple Instance Learning for burned area mapping using multitemporal reflectance data ”, International Workshop on Climate Informatics, 2016 (selected for spotlight presentation) (CI 2016)</li> </ol>

MANUSCRIPTS	<ol style="list-style-type: none"> <li>1. <b>G. Nayak</b>, R. Ghosh, X. Jia, V. Kumar “Weakly Supervised Classification using Group-level Labels”. Under review</li> <li>2. <b>G. Nayak</b>, V. Mithal, X. Jia, R. Ghosh, V. Kumar, R. Nemani “WORD: Weakly Supervised Regression with Ordinal Labels: with a novel extension for rare class optimization”. Under review</li> </ol>
SOFTWARE	<ul style="list-style-type: none"> <li>• A web viewer was developed to make the global maps of burned forests we developed publicly available at <a href="https://z.umn.edu/fireviewer">https://z.umn.edu/fireviewer</a></li> </ul>
AWARDS	<p>Travel Awards</p> <ul style="list-style-type: none"> <li>• ACM SIGKDD Conference on Knowledge Discovery and Data Mining Aug 2019</li> <li>• SIAM International Conference on Data Mining, Calgary, Canada May 2019</li> <li>• Climate Informatics, Boulder, CO Sept 2016</li> </ul> <p>Student Awards — Indian Institute of Technology Kanpur</p> <ul style="list-style-type: none"> <li>• Merit-cum-Means Scholarship 2009-13 <ul style="list-style-type: none"> <li>• The Merit-cum-Means (MCM) Scholarship at IIT Kanpur is awarded to meritorious students from weaker economic backgrounds.</li> </ul> </li> </ul>
POSTERS	<ol style="list-style-type: none"> <li>1. <b>G. Nayak</b>, V. Mithal, X. Jia, V. Kumar, R. Nemani “Learning predictive models with weak supervision”. Doctoral forum at the 2019 SIAM International Conference on Data Mining. Society for Industrial and Applied Mathematics, 2019 (SDM19)</li> <li>2. V. Mithal, <b>G. Nayak</b>, A. Khandelwal, V. Kumar, N. Oza and R. Nemani, 2015, December. Global Monitoring of Tropical Forest Fires Using A New Predictive Modeling Approach for Rare Classes. In AGU Fall Meeting Abstracts.</li> <li>3. V. Mithal, A. Khandelwal, <b>G. Nayak</b>, V. Kumar, R. Nemani and N. Oza, 2014, December. A Spatio-temporal Data Mining Approach to Global scale Burned Area Monitoring. In AGU Fall Meeting Abstracts.</li> <li>4. N. Oza, V. Kumar, R. Nemani, S. Boriah, K. Das, A. Khandelwal, B. Matthews, A. Michaelis, V. Mithal, <b>G. Nayak</b> and P. Votava, 2014, December. Integrating Parallel and Distributed Data Mining Algorithms into the NASA Earth Exchange (NEX). In AGU Fall Meeting Abstracts.</li> </ol>
PROFESSIONAL SERVICE	<p><b>Reviewer</b> for the following journal, conference and workshop proceedings Remote Sensing, Remote Sensing in Ecology and Conservation, KDD, ICDM, SDM, AAAI, IJCAI, Climate Informatics.</p>
EDUCATIONAL ACTIVITIES	<p><b>Teaching Assistant</b> Fall 2014, Spring 2016, Spring 2017 For the graduate-level ‘Introduction to Data Mining’ course</p> <p><b>Guest Lecturer</b> For the graduate-level ‘Spatio-temporal Data Mining’ course Fall 2016 For the graduate-level ‘AI for Earth’ course Fall 2019</p> <p><b>Student Mentor</b> Mentored the following students:</p> <ul style="list-style-type: none"> <li>• Rahul Ghosh Spring 2019-present (PhD student in the Kumar research group at University of Minnesota)</li> <li>• Aravinthan Balasubramaniam Summer 2015 (sophomore from University of Minnesota)</li> </ul>

## REFERENCES

Some recommendations are available on my LinkedIn profile (click here: [Linkedin](#)).  
Others can be provided upon request.