

PUBLICATIONS

Publications:

Journals:

1. **Soumitra Samanta**, Bob Luigjes, Stuart Lyon and Douglas Kell, **Novel corrosion protective coating formulations suggested by machine learning of historic test data**, In *npj Materials Degradation*, 2026, DOI: <https://doi.org/10.1038/s41529-026-00771-2>
2. Suvajit Patra, Arkadip Maitra, Megha Tiwari, K Kumaran, Swathy Prabhu, Swami Punyeshwarananda, **Soumitra Samanta**, **Hierarchical Windowed Graph Attention Transformer Encoder and a Large Scale Dataset for Indian Sign Language Recognition**, In *Pattern Analysis and Applications*, 28(3), 148, 2025
3. Ramya Maitreyee, Gaurav Saxena, Bhuvana Narasimhan, Dipti Misra Sharma, Pruthwik Mishra, Rukmini Bhaya Nair, **Soumitra Samanta**, Ben Ambridge, **Children learn ergative case marking in Hindi using statistical pre-emption and clause-level semantics (intentionality): evidence from acceptability judgment and elicited production studies with children and adults**, In *Open Research Europe*, 2023, 3:49, DOI: <https://doi.org/10.12688/openreseurope.15611.2>
4. Ben Ambridge, Laura Doherty, Ramya Maitreyee, Tomoko Tatsumi, Shira Zicherman, Pedro Mateo Pedro, Ayuno Kawakami, Amy Bidgood, Clifton Pye, Bhuvana Narasimhan, Inbal Arnon, Dani Bekman, Amir Efrati, SF Can Pixabaj, Mario Marroquín Pelíz, Margarita Julajuj Mendoza, **Soumitra Samanta**, Seth Campbell, Stewart McCauley, Ruth Berman, Dipti Misra Sharma, Rukmini Bhaya Nair, Kumiko Fukumura, **Testing a computational model of causative overgeneralizations: Child judgment and production data from English, Hebrew, Hindi, Japanese and K'iche**, In *Open Research Europe*, 2022, DOI: <https://doi.org/10.12688/openreseurope.13008.2>
5. Aditya Divyakant Shrivastava, Neil Swainston, **Soumitra Samanta**, Ivayla Roberts, Marina Wright Muelas, Douglas B Kell, **MassGenie: A transformer-based deep learning method for identifying small molecules from their mass spectra**, In *Biomolecules*, 11(13), 1793, 2021
6. **Soumitra Samanta**, Steve O'Hagan, Neil Swainston, Timothy J. Roberts and Douglas B. Kell, **VAE-Sim: a novel molecular similarity measure based on a variational autoencoder**, In *Molecules*, 25(15), 3446, July 2020
7. Douglas B. Kell, **Soumitra Samanta** and Neil Swainston **Deep learning and generative methods in cheminformatics and chemical biology: navigating small molecule space intelligently**, In *Biochemical Journal*, 477(23), 4559-4580, December 2020
8. Yash Khemchandani, Steve O'Hagan, **Soumitra Samanta**, Neil Swainston, Timothy J. Roberts, Danushka Bollegala and Douglas B. Kell, **DeepGraph-MolGen, a multi-objective, computational strategy for generating molecules with desirable properties: a graph convolution and reinforcement learning approach**, In *Journal of Cheminformatics*, 12, 53, September 2020
9. Ben Ambridge, Tomoko Tatsumi, Laura Doherty, Ramya Maitreyee, Colin Bannard, **Soumitra Samanta**, Stewart McCauley, Inbal Arnon, Shira Zicherman, Dani Bekman, Amir Efrati, Ruth Berman, Bhuvana Narasimhan, Dipti Misra Sharma, Rukmini Bhaya Nair, Kumiko Fukumura, Seth Campbell, Clifton Pye, Pedro Mateo Pedro, Sindy Fabiola Can Pixabaj, Mario Marroquín Pelíz, Margarita Julajuj Mendoza, **The crosslinguistic acquisition of sentence structure: Computational modeling and grammaticality judgments**

from adult and child speakers of English, Japanese, Hindi, Hebrew and K'iche, In *Cognition*, Vol. 202, pp. 104310, June 2020

10. Mrinmoy Ghorai, **Soumitra Samanta**, Sekhar Mandal and Bhabatosh Chanda, **Multiple Pyramid-based Image Inpainting using Local Patch Statistics and Steering Kernel Feature**, In *IEEE Transaction on Image Processing*, Vol. 28(11), pp. 5495-5509, June 2019
11. Jija Das Gupta, **Soumitra Samanta** and Bhabatosh Chanda, **An Ensemble Classifier based Off-line Handwritten Word Recognition System in Holistic Approach**, In *IET Image Processing*, Vol. 12(8), pp. 1467-1474, March 2018
12. **Soumitra Samanta** and Bhabatosh Chanda, **Space-time Facet Model for Human Activity Classification**, In *IEEE Transaction on Multimedia*, Vol. 16(6), pp. 1525-1535, October 2014

Book chapter:

1. Mrinmoy Ghorai, Sanchyan Santra, **Soumitra Samanta**, Pulak Purkait and Bhabatosh Chanda, **Book chapter-13: An Image Dataset of Bishnupur Terracotta Temples for Digital Heritage Research**, In *Heritage Preservation*, Springer, doi: https://doi.org/10.1007/978-981-10-7221-5_13, pp. 269-291, 2018
2. Pulak Purkait, Mrinmoy Ghorai, **Soumitra Samanta** and Bhabatosh Chanda, **Book chapter-9: A patch based constrained inpainting for damaged mural images**, In *Digital Hampi: Preserving Indian Cultural Heritage* Springer, doi: https://doi.org/10.1007/978-981-10-5738-0_13, pp. 205-223, 2017

Conferences:

1. Rajdeep Mondal and **Soumitra Samanta**, **A Novel Anti-Sample Generation Technique for Effective Machine Unlearning**, In 11th *International Conference on Pattern Recognition and Machine Intelligence (PReMI)*, Delhi, India, December, 2025 [Accepted]
2. Suvajit Patra, Arkadip Maitra and **Soumitra Samanta**, **A Continuous Indian Sign Language Production System from Isolated Signs**, In 11th *International Conference on Smart Computing and Communications (ICSCC)*, Kochi, India, July, pp. 1-6, 2025
3. **Soumitra Samanta**, Colin Bannard, Julian Pine and the Language05 Team, **Can Automated Gesture Recognition Support the Study of Child Language Development?**, In 42nd *Annual Virtual Meeting of the Cognitive Science Society (CogSci)*, Toronto, Canada, July 29 - August 1, 2020
4. **Soumitra Samanta** and Franklin Chang, **Modelling Human Understanding of Thematic Roles with Motion Heuristics**, In 17th *International Conference on Machine Learning and Applications (ICMLA)*, Florida, USA, December 2018
5. Jija Das Gupta, **Soumitra Samanta**, **ISIHWD: A Database for Off-line Handwritten Word Recognition and Writer Identification**, In 9th *International Conference on Advances in Pattern Recognition (ICAPR)*, Bangalore, India, December 2017
6. Mrinmoy Ghorai, Pulak Purkait, Sanchayan Santra, **Soumitra Samanta** and Bhabatosh Chanda, **Bishnupur Heritage Image Dataset (BHID): A resource for various computer vision applications**, In 10th *Indian Conference on Vision, Graphics, and Image Processing (ICVGIP)*, Guwahati, India, December 2016

7. Mrinmoy Ghorai, **Soumitra Samanta** and Bhabatosh Chanda, **Scale-Invariant Image Inpainting Using Gradient-Based Image Composition.**, In *2nd Workshop on Computer Vision Applications (WCVA)* in conjunction with *ICVGIP*, Guwahati, India, December 2016
8. **Soumitra Samanta** and Bhabatosh Chanda, **Indian Classical Dance Classification on Manifold using Jensen-Bregman LogDet Divergence**, In *22nd International Conference on Pattern Recognition (ICPR)*, pp. 4507-4512, Stockholm, Sweden, August 2014
9. **Soumitra Samanta** and Bhabatosh Chanda, **A Novel Technique for Space-Time-Interest Point Detection and Description for Dance Video Classification**, In *9th International Symposium on Visual Computing (ISVC)*, pp. 507-516, Crete, Greece, July 2013
10. **Soumitra Samanta** and Bhabatosh Chanda, **FaSTIP: A New Method for Detection and Description of Space-Time Interest Points for Human Activity Classification**, In *8th Indian Conference on Vision, Graphics, and Image Processing (ICVGIP)*, Mumbai, India, December 2012
11. **Soumitra Samanta**, Pulak Purkait and Bhabatosh Chanda, **Indian Classical Dance Classification by Learning Dance Pose Bases**, In *12th Winter Conference on Applications of Computer Vision (WACV)*, pp. 265-270, Colorado, USA, January 2012
12. **Soumitra Samanta**, Sanjoy Kumar Saha, and Bhabatosh Chanda, **A Simple and Fast Algorithm to Detect the Fovea Region in Fundus Retinal Image**, In *2nd International Conference on Emerging Applications of Information Technology (EAIT)*, pp. 206-209, Kolkata, India, February 2011

Others:

1. **Soumitra Samanta**, Colin Bannard, Julian Pine, and the Language05 Team, **Is the automated classification of child gestures feasible?**, In *5th International Language and Communicative Development Conference*, Manchester, UK, June 12-13, 2019
2. Ramya Maitreyee, Ben Ambridge, Bhuvana Narasimhan, Rukmini Nair, Dipti Sharma and **Soumitra Samanta**, **Disappearing causative overgeneralization errors across five languages: The role of semantics**, In *CUNY 2019 32nd Annual CUNY Conference on Human Sentence Processing*, 2019
3. **Soumitra Samanta** and Franklin Chang, **A Computational Model for Thematic Roles Identification**, In *51st Annual Meeting of the Society for Mathematical Psychology (MATHPSYCH)*, Madison, USA, July 21-24, 2018
4. **Soumitra Samanta** and Bhabatosh Chanda, **A Data-driven Approach for Human Pose Tracking Based on Spatio-temporal Pictorial Structure**, In *arXiv:1608.00199*