Prof Sayan Goswami
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Research Area

- Big Data, High-performance computing, parallel & distributed computing, CUDA computing, Hadoop
- Big data, distributed computing, high performance computing (HPC), computational genomics

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Profile

Education & Scientific Career

- Assistant Professor of Computer Science, Ahmedabad University (May 2021 - Present)
- Assistant Professor of Computer Science, LSU Shreveport (August 2019 - May 2021)
- Ph.D. Computer Science, Louisiana State University (August 2019)
- Graduate Assistant, Louisiana State University (January 2013 - May 2019)
- Associate Technology, Sapient Global Markets (July 2011 - January 2013)

Publications

- Sayan Goswami, Kisung Lee, Seung-Jong Park. "Distributed de novo assembler for large-scale long-read datasets", IEEE International Conference on Big Data (Big Data), 2020.

- Sayan Goswami, Ayam Pokhrel, Kisung Lee, Ling Liu, Qi Zhang, Yang Zhou. "GraphMap: scalable iterative graph processing using NoSQL." The Journal of Supercomputing, 2019.

- Arghya Kusum Das, Sayan Goswami, Kisung Lee, Seung-Jong Park. "A hybrid and scalable error correction algorithm for indel and substitution errors of long reads", BMC Genomics 20(11), 2019.

- Shayan Shams, Sayan Goswami, Kisung Lee. "Deep Learning-Based Spatial Analytics for Disaster-Related Tweets: An Experimental Study", Proceedings of the 20th IEEE International Conference on Mobile Data Management (MDM), 2019.

- Sayan Goswami, Kisung Lee, Shayan Shams, and Seung-Jong Park. "GPU-Accelerated Large-Scale Genome Assembly", Proceedings of the 32nd IEEE International Parallel & Distributed Processing Symposium (IPDPS), 2018.

- Shayan Shams, Sayan Goswami, Kisung Lee, Seungwon Yang, and Seung-Jong Park. "Towards Distributed Cyberinfrastructure for Smart Cities using Big Data and Deep Learning Technologies",Proceedings of the 38th IEEE International Conference on Distributed Computing Systems (ICDCS), vision track paper, 2018.

- Arghya Kusum Das, Jaeki Hong, Sayan Goswami, Richard Platania, Kisung Lee, Wooseok Chang, Seung-Jong Park, and Ling Liu. "Augmenting Amdahl's Second Law: A Theoretical Model to Build Cost-Effective Balanced HPC Infrastructure for Data-Driven Science", Proceedings of the 10th IEEE International Conference on Cloud Computing (CLOUD), 2017.

- Arghya Kusum Das, Shayan Shams, Sayan Goswami, Richard Platania, Kisung Lee, and Seung-Jong Park. "ParSECH: Parallel Sequencing Error Correction with Hadoop for Large-Scale Genome", Proceedings of the 9th International Conference on Bioinformatics and Computational Biology (BICOB), 2017.

- Worked with IBM Systems Group to port and accelerate a Hadoop-based metagenome assembly program on an IBM Power8 cluster with SMT8 Simultaneous Multithreading and Spectrum Scale file system. The results of this project can be found in the following whitepaper

- Arghya Kusum Das, Praveen Kumar Koppa, Sayan Goswami, Richard Platania, and Seung-Jong Park. "Large-scale parallel genome assembler over cloud computing environment", Journal of bioinformatics and computational biology 15.03 (2017).

- Sayan Goswami, Arghya Kusum Das, Richard Platania, Kisung Lee, and Seung-Jong Park. "Lazer: Distributed Memory-Efficient Assembly of Large-Scale Genomes", Proceedings of the IEEE International Conference on Big Data (IEEE BigData), 2016.

- Praveen Kumar Koppa, Arghya Kusum Das, Sayan Goswami, Richard Platania, and Seung-Jong Park. "Giga: Giraph-based genome assembler for gigabase scale genomes." Proceedings of the 8th International Conference on Bioinformatics and Computational Biology (BICOB 2016). 2016.

- Chui-hui Chiu, Nathan Lewis, Dipak Kumar Singh, Arghya Kusum Das, Mohammad M. Jalazai, Richard Platania, Sayan Goswami, Kisung Lee, and Seung-Jong Park. "Bic-lsu: Big data research integration with cyberinfrastructure for lsu", Proceedings of the XSEDE16 Conference on Diversity, Big Data, and Science at Scale, ACM, 2016.