Curriculum Vitae - Santosh Pandey

Graduate Research Assistant
Stevens Institute of Technology
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RESEARCH INTERESTS

Machine Learning, Computer Architecture, Large-Scale Graph Analytics and High-Performance Computing.

EDUCATION

2019 - Present
Ph.D. in **Computer Engineering**
Department of Electrical & Computer Engineering
Stevens Institute of Technology, USA
Advisor: Hang Liu

2012 - 2016
B.E. in **Computer Engineering**
Tribhuvan University, Nepal
Thesis Advisor: Subarna Shakya

EXPERIENCES

2020 Mar.- Present
Research Intern | Brookhaven National Lab
Worked on machine learning based computer architecture simulation.
Advisor: Lingda Li & Adolfy Hoisie

May 2019- Aug. 2019
Summer Research Internship | Lawrence Berkeley National Lab
Worked on accelerating graph algorithms with GPUs.
Advisor: Xiaoye Sherry Li

June 2018- Dec. 2018
Team Lead for AI Research | Rosebay Consulting
Led a team that developed a fraud detection framework for some financial institutions in Asia.

Mar. 2017- June 2017
Data Engineering Intern | GrowByData
Worked on a data acquisition framework for e-commerce.

HONORS & AWARDS

2022 IEEE TCHPC Student Travel Award
2019 Champion of MIT Graph Challenge Competition
2019 Sciences Research Pathways Fellowship, Lawrence Berkeley National Lab
2016 Research Grant, Nepal Academy of Science and Technology (NAST)
2012 Full Academic Scholarship for B.E

RESEARCH - PUBLICATIONS

Journal Articles

2022 Lingda Li, **Santosh Pandey**, Thomas Flynn, Hang Liu, Noel Wheeler, Adolfy Hoisie. SimNet: Computer Architecture Simulation using Machine Learning. In *the Proceedings of the ACM on Measurement and Analysis of Computing Systems (**SIGMETRICS**)*, 2022.

2021 **Santosh Pandey***, Zhibin Wang*, Sheng Zhong, Chen Tian, Lingda Li, Adolfy Hoise, Xiaoye S. Li, Caiwen Ding, Dong Li, Bolong Zheng and Hang Liu. TRUST: Triangle Counting on GPUs. In *the Transactions on Parallel and Distributed Systems (**TPDS**)*. IEEE, 2021.

Refereed Conference Proceedings

2023 Chengying Huan, Shuaiwen Leon Song, **Santosh Pandey**, Hang Liu, Yongchao Liu, Baptiste Lepers, Charles He, Kang Chen, Jinlei Jiang, Yongwei Wu. TEA: A General-Purpose Temporal Graph Random Walk Engine. In *Proceedings of the European Conference on Computer Systems (**Eurosys**)*. ACM, 2023 (to appear).

2022 **Santosh Pandey**, Lingda Li, Thomas Flynn, Adolfy Hoisie, Hang Liu. Scaling Deep Learning-based Microarchitecture Simulation on GPUs. In *Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis (**SC**)*. ACM, 2022.

2021 Shiyang Chen, Shaoyi Huang, **Santosh Pandey**, Bingbing Li, Guang Gao, Long Zheng, Caiwen Ding and Hang Liu. E.T.: Rethinking Transformer Models on GPUs. In *Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis (**SC**)*. ACM, 2021.

2020 **Santosh Pandey**, Lingda Li, Adolfy Hoisie, Xiaoye S. Li and Hang Liu. C-SAW: A Framework for Graph Sampling and Random Walk on GPUs. In *Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis (**SC**)*. IEEE, 2020.

2020 Bingbing Li, **Santosh Pandey**, Haowen Fang, Yanjun Lyv, Ji Li, Jieyang Chen, Mimi Xie, Lipeng Wan, Hang Liu, and Caiwen Ding. FTRANS: Energy-Efficient Acceleration of Transformers using FPGA. In *Proceedings of the International Symposium on Low Power Electronics and Design (**ISLPED**)*. ACM/IEEE, 2020.

2019 **Santosh Pandey**, Xiaoye S. Li, Aydin Buluc, Jiejun Xu and Hang Liu. H-INDEX: Hash-Indexing for Parallel Triangle Counting on GPUs. In *the High Performance Extreme Computing **(HPEC)**, Graphchallenge*. IEEE, 2019. **Awarded Champion**.

2019 Anil Gaihre*, **Santosh Pandey***, Hang Liu. Deanonymizing cryptocurrency with graph learning: The promises and challenges. In *the Conference on Communications and Network Security (**CNS**)*. IEEE, 2019.

2019 **Santosh Pandey**, Gopal Ojha, Bikesh Shrestha, Rohit Kumar. BlockSIM: A Practical Simulation Tool for Optimal Network Design, Stability and Planning. In *the International Conference on Blockchain and Cryptocurrency (**ICBC**)*. IEEE, 2019.

2017 Sadhu Ram Basnet, Ram Sharan Chaulagain, **Santosh Pandey**, Subarna Shakya. Distributed high performance computing in openstack cloud over sdn infrastructure. In *the International Conference on Smart Cloud (**SmartCloud**)*. IEEE, 2017.

2017 Ram Sharan Chaulagain, **Santosh Pandey**, Sadhu Ram Basnet, Subarna Shakya. Cloud based web scraping for big data applications. In *the International Conference on Smart Cloud (**SmartCloud**)*. IEEE, 2017.

STUDENT ADVISING & MENTORING

Undergraduate Students

2022 Christian O'Connell (2022.03 - Present)
Topic: Performance prediction of contemporary hardware.

PROFESSIONAL ACTIVITIES

Reviewer

2022 IEEE Big Data

2021 IEEE Big Data, IEEE CIM, IEEE TPDS

2020 IEEE NAS, IEEE TC

Artificats Evaluation Committee

2022 PPoPP'22