Yasanka Sameera Horawalavithana

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OBJECTIVE

My goal is to become a specialized person in research & academia. To me, research is often a bridge to an ambitious goal - a bridge that needs to be crossed in steps. I tend to work on projects that try to bring cutting-edge research ideas to mainstream practice. To uplift and share my knowledge, I would like to apply for this position.

EDUCATION

University of South Florida, Tampa, FL
PhD Student, Computer Science and Engineering, Present GPA*: 3.95
University of Colombo, School of Computing, Colombo, Sri Lanka
Bachelor of Science, Computer Science, April 2015 GPA: 3.84
Umeå University, Sweden
Exchange Student, Computer Science, Fall 2013

MAJOR

Graph Theory and Algorithms, Computational Sociology, Social Dynamics

PUBLICATIONS

Conference: **Sameera Horawalavithana**, and Adriana Iamnitchi. Cascade-LSTM: Predicting Information Cascades using Deep Neural Networks. In Proceedings of The Web Conference (WWW'19), San Francisco, USA, May 2019 (under peer review)

Conference: Essa Alhazmi, **Sameera Horawalavithana**, Nazim Choudhury, and Adriana Iamnitchi, Temporal Growth of Migration Cascades in Online Gaming. In Proceedings of The Web Conference (WWW'19), San Francisco, USA, May 2019 (under peer review)

Conference: John Skvoretz, Maxwell Bussenbarick, **Sameera Horawalavithana**, and Adriana Iamnitchi, Diffusion Processes and Two-Mode Networks: User Engagement on GitHub. 2^{nd} North American Social Networks Conference (NASN'18), San Francisco, USA, Nov. 2018

Conference: **Sameera Horawalavithana**, Clayton Gandy, Juan Arroyo Flores, John Skvoretz, and Adriana Iamnitchi. Diversity, Topology, and the Risk of Node Re-identification in Labeled Social Graphs. , The 7^{th} International Conference on Complex Networks and Their Applications. Cambridge, UK , Dec. 2018

Conference: Essa Alhazmi, **Sameera Horawalavithana**, Jeremy Blackburn, John Skvoretz and Adriana Iamnitchi. An Empirical Study on Team Formation in Online Games. In Proceedings of the 2017 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining 2017 (ASONAM '17), Sydney, Australia

Workshop: **Sameera Horawalavithana** and D. N. Ranasinghe. 2015. An Efficient Incremental Indexing Mechanism for Extracting Top-k Representative Queries Over Continuous Data-streams. In Proceedings of the 14th International Workshop on Adaptive and Reflective Middleware (ARM 2015). ACM, New York, NY, USA, ,Article 8 , 3 pages. DOI=http://dx.doi.org/10.1145/2834965.2834975

PROJECTS

Modeling Information Diffusion Processes with Deep Learning Algorithms (SocialSim, Funding Agency: DARPA): The objective of this work is to develop technologies for high-fidelity simulation of online social behavior (the spread and evolution of online information) while rigorously testing and measuring simulation accuracy. (Jan 2018 - Present)

- Developed a multi-CPU/ mulit-GPU simulator engine to deploy multi-modal Deep Learning architecture. We simulate the activities in Github using this setup as a part of baseline challenge in the Socialsim program, Summer 2018

– Designing novel methods to model the structure of information cascades in large scale social networks using Deep Learning techniques.

Structural Anonymization Techniques for Large, Labeled, and Dynamic Social Graphs (Funding Agency: NSF) The objective of this work is to provide big data owners with tools to safely share their social networks data with the research community. The project aims to approach graph anonymization via two techniques for graph generation: dK-series techniques, introduced in the context of internet network generation, and Exponential Random Graph Model-based approaches (ERGM).(Aug 2016 - Present)

– Developed novel privacy/ utility measurements using Machine Learning techniques, and explore the underlying reasons for the success of de-anonymization attacks in social network data.[1]

Group Dynamics in Online Games We (Distributed System Group, USF) examine the problem of group dynamics in an online gaming environment. Specifically, we are modeling the behavior of online players to understand how groups form, and evolve dynamically (Dec 2016 - Present)

Enhancing Mobile Agents Robots are mobile agents that use sensors to perceive the world, specially its own state, and the surrounding environment. In real-world, sensor measurements include a general amount of noise, and its dependent on multiple states, E.g., robots orientation. In this study, we proposed a Mixture Density Network (MDN) model to directly learn the probability distribution of sensor measurements, and to capture the amount of noise.

Mining customer profiles: Developed methods to profile customers in Sysco, US restaurant platform. The model is designed to build a rich customer entity mapping multiple user-product engagements (e.g., analyzing user transaction data streams). Tools used in the implementation: *Spark Streaming, Kafka, Elasticsearch, Amazon Lambda, Amazon DynamoDB.* (January 2016 - July 2016)

Real-time ETL: Contributed to the development of a (near) real-time data-warehouse solution, Tools used in the implementation: *Apache Storm, Hadoop Eco-system, MySQL* (February 2015 - August 2015)

Top-k publish/subscribe model (Best Thesis Project): Proposed a content-based Top-k publish/subscribe model with a novel formalization of a ranking method that uses a variation of minimum-independent dominating set problem in dynamic graphs, which is NP-hard. Randomized algorithm is proposed to rank streaming contents. Tools used in the implementation: *Amazon Kinesis, Amazon ElasticCache.* (March 2014 - December 2014)

EXPERIENCE

Graduate Research Assistant — University of South Florida
January 2017 - Present — Department: CSE
Currently working at Distributed System Group (DSG) under Adriana Iamnitchi.

Software Engineer — Sysco Labs (Pvt.) Ltd.
February 2015 - July 2016 — 59, Flower Rd, Colombo 07, Sri Lanka
Worked at Data and Analytic Team.

Guest Lecturer — University of Colombo
July 2015, 2016 — 35, Reid Avenue, Colombo 07, Sri Lanka
Course: Distributed System, MSc

[1] https://samtube405.github.io/_profile

AWARDS & HONORS

Best Undergraduate Thesis: University Gold Medal for the Best Computer Science Undergraduate Thesis/Project in the year 2014, University of Colombo, Sri Lanka

- Scholarship to attend Summer Institute, San Diego Super Computing Center (SDSC), University of California, San Diego, Summer, 2018
- Scholarship to attend 2^{nd} International summer school for Deep Learning, University of Genoa, Genoa, Italy, Summer, 2018
- ACM/SIGHPC Travel Grant for Supercomputing conference 2016, Utah
- Student Volunteer at ACM PODC conference, Washington, DC, Summer 2017
- Achieved 3rd place at Nordic Collegiate Programming Contest 2013 (Umeå region) representing Umeå university, Sweden

DECLARATION

I hereby declare that the above written particulars are true to the best of my knowledge and belief & below referees can be contacted to get further information.

Prof. Adriana Iamnitchi, PhD Supervisor,
Department of Computer Science and Engineering, University of South Florida, 4202, East Fowler Ave, Tampa, FL 33620
mail: aii@mail.usf.edu

Prof. John Skvoretz, Distinguished Professor,
Department of Sociology, University of South Florida, 4202, East Fowler Ave, Tampa, FL 33620
mail: jskvoretz@usf.edu

Dr. D.N. Ranasinghe, Senior Lecturer Gr. I,
University of Colombo, School of Computing, 35, Reid Avenue, Colombo 7, Sri Lanka,
mail: dnr@ucsc.cmb.ac.lk