


# Kanchana Ruwanpathirana

## Graduate Student (PhD)

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## About me

I am a graduate student at the University of Utah currently enrolled in the PhD program at the School of Computing. I am aiming to leverage my knowledge of analytical methods, experimental design, research skills in the industry and expand my horizons. My research interests involve approximation algorithms for problems including online learning problems (such as online clustering, online learning with partial observations) as well as problems such as matrix completion, principal component regression, weighted low-rank approximation and etc. Outside of the work, I'm also in to hiking and outdoor activities.

## Skills

Java, Python, C, C++

Communication skills

Problem solving

## Modules

University of Utah

Advanced Algorithms (A)  
Data Mining (A)  
Machine Learning (A)  
Intro to Optimization (A)

University of Moratuwa, LKA

Distributed Systems (A)  
Operational Research (A)

Coursera

Machine Learning  
(Credential ID: 2YFH5MTU2EK9)  
Computational Neuroscience  
(Credential ID: Q6GSNPCJYPBT)

## Education

since 2018 Graduate Student (Ph.D.) School of Computing, University of Utah  
Current GPA: 4.0  
Working with Prof. Aditya Bhaskara. Worked on projects in online learning and in principal component regression and matrix completion literature. Published a paper on online k-means clustering, at ALT 2020 and a paper on Principal Component Regression and Matrix Completion (Semi-random observations) at AISTATS. A publication in submission for the weighted matrix approximation work at ICML.

2014-2018 B.Sc. of Engineering University of Moratuwa, Sri Lanka  
Cumulative GPA: 4.09/4.20  
Majored in Computer Science and Engineering

## Publications

2021 Additive Error Guarantees for Weighted Low Rank Approximation with Aditya Bhaskara and Pruthivi Maheskaya Wijewardena  
In Submission

2020 Principal Component Regression with Semirandom Observations via Matrix Completion with Aditya Bhaskara and Pruthivi Maheskaya Wijewardena  
Accepted to AISTATS 2021

2020 Robust Algorithms for Online  $k$ -means Clustering with Aditya Bhaskara  
Proceedings of the 31st International Conference on Algorithmic Learning Theory

## Experience

2018 Junior Consultant - University of Moratuwa, Sri Lanka TA/Management  
Primary job tasks involved TA work for undergraduate classes, assisting in management tasks and assisting in creating and managing continuous assessments for incoming students

2016 Visiting Research Fellow - SUTD, Singapore ML in Music Research  
Worked with Dr. Simon Lui from Singapore University of Technology and Design. Research project on recognizing emotions in music. Analysis of the mathematical model used in mapping acoustic feature space to emotional vector space and using ml techniques (i.e. SVM, NN etc.) to model it in to a continuous domain

## Awards

2017 NASA Space Apps 2017 Global Finalist  
Member of Team Codon [global finalist in Galactic Impact Category]

2016 International Mathematics Competition for University Students (23rd IMC) Bronze Medal

2012 International Mathematical Olympiad (53rd IMO) Certificate

## Activities

2012-2020 Sri Lanka Olympiad Mathematics Foundation Volunteer Member  
Was involved in managing the web applications, exam management and proctoring. Currently assisting in creating a exam management system for the organization.

2016 Mathematics Society - Univeristy of Moratuwa, Sri Lanka Secretary  
Involved in re-establishing the mathematics society and initiating a series of weekly talks by members and invited lecturers.