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May '15
May '13

RELEVANT COURSEWORK	Probability and Statistics, Linear Algebra, Data Mining, Artificial Intelligence, Parallel Computing, Graphs and Networks, Design and Analysis of Algorithms, Machine Learning, Neural Networks and Fuzzy Logic
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Jul '19 - Present

May '20 - Present

Sep '19 - Aug '20

Jul '19 - Present

Bengaluru, India

Bengaluru, India

Mumbai, India

May '17 - Jul '17

RESEARCH PROJECTS	Parallelization of K-Medoids Clustering Algorithm	BITS Pilani, India
	Advisor: <i>Prof. Poonam Goyal</i> <ul style="list-style-type: none"> Developed parallel K-Medoids algorithm using Adaptive Gridding for spatial partitioning in Spark Java. Improved the algorithm's efficiency of selecting initial medoids without compromising the clustering error (average sample size is 10x less than the state of the art - PAMAE) given any skewed data set. 	<i>Aug '18 - Dec '18</i>
	Parallelization of Union-find Algorithm	BITS Pilani, India
	Advisor: <i>Prof. Poonam Goyal</i> <ul style="list-style-type: none"> Developed a communication efficient distributed Union-find algorithm using Open MPI in C++. Reduced the number of message passing operations between processes using deferred bulk updates. 	<i>Jan '18 - May '18</i>
COURSE PROJECTS	Kinship Verification from Facial Images of Parents and their Kids	
	<i>Machine Learning</i> — Instructor: <i>Dr. Navneet Goyal</i> <ul style="list-style-type: none"> Compared qualitatively and quantitatively the existing techniques (Artificial Neural Networks, SVM, CNN, ensemble of SVMs) for Kinship Verification in R using Keras library. Used the results to design and implement an ensemble of Metric Learning based CNN architecture. Improved accuracy by 2.8% on the KinFaceW-1 dataset and by 3.1% on the KinFaceW-2 dataset. 	<i>Nov '18 - Dec '18</i>
	Data Analysis and Modelling of Student Course Grades	
	<i>Machine Learning</i> — Instructor: <i>Dr. Navneet Goyal</i> <ul style="list-style-type: none"> Created a Bayesian Belief Network using bnlearn library in R based on grades of students, incorporating various hypotheses as to how attributes in data are related. The network can answer complex queries without being adversely affected by missing values, irrelevant attributes, and size of data. The network can be used to assess teaching pedagogies by modelling natural language queries as conditional probabilities. 	<i>Sep '18 - Oct '18</i>
	Foster's Design Methodology on a Range-Queryable Distributed Data Structure (RAQ)	
	<i>Parallel Computing</i> — Instructor: <i>Prof. Shan Sundar Balasubramaniam</i> <ul style="list-style-type: none"> Designed a parallel algorithm to facilitate joining and leaving of peers from a peer to peer network (represented as RAQ data structure) using Foster's Design methodology with a commodity cluster as the target platform. Obtained logarithmic speedup and improved time complexity of joining mechanism compared to sequential execution. 	<i>Apr '18 - May '18</i>
	Compiler for C-Like Language	
	<i>Compiler Construction</i> — Instructor: <i>Prof. Vandana Agarwal</i> <ul style="list-style-type: none"> Developed lexical, syntax, semantic analyzers, and code generator modules of a compiler for a language in C. Implemented functionalities to support simple functions, simple matrix operations, and conditional statements. 	<i>Jan '18 - Apr '18</i>
	Design Word Document Index Creation for Shared Memory Systems	
	<i>Parallel Computing</i> — Instructor: <i>Prof. Shan Sundar Balasubramaniam</i> <ul style="list-style-type: none"> Designed a PRAM algorithm for document index creation using OpenMP in C++ for a UNIX based file system. Developed a scalable divide and conquer algorithm on a file system with up to 160,000 files. Reduced time taken to create an index from 43 seconds on 1 CPU core to 9 seconds on 32 CPU cores. 	<i>Jan '18 - Feb '18</i>
TEACHING ASSISTANTSHIPS	Discrete Structures for Computer Science	<i>Aug '18 - Dec '18</i>
	<ul style="list-style-type: none"> Created take home assignments for a class of 150 students. 	
	Database Systems	<i>Jan '18 - May '18</i>
	<ul style="list-style-type: none"> Created lab sheets and conducted lab sessions for a batch of 40 students. 	
	Object-Oriented Programming	<i>Jan '17 - May '17</i>
	<ul style="list-style-type: none"> Conducted lab sessions and invigilated final lab exam for a batch of 40 students. 	
CERTIFICATIONS	<ul style="list-style-type: none"> Mining Massive Datasets, offered by Stanford Online, eDX 	<i>May '20</i>
	<ul style="list-style-type: none"> CUDA Programming Masterclass, Udemy 	<i>Apr '20</i>
	<ul style="list-style-type: none"> Functional Programming Principles in Scala, EPFL, Coursera 	<i>Nov '18</i>
TECHNICAL SKILLS	C, C++, Java, Python, R, Scala, Scheme, MPI, OpenMP, Spark Java, Django	
AWARDS AND SCHOLARSHIPS	<ul style="list-style-type: none"> BITS Merit Scholar: Received 80% Scholarship for being in the top 1% in all semesters. 	<i>Aug '15 - Jun '19</i>
	<ul style="list-style-type: none"> Awarded Commendation Letter from HRD Minister for being among the top 0.1% in class 12th exam. 	<i>Jun '15</i>
EXTRA CURRICULAR ACTIVITIES	<ul style="list-style-type: none"> Google AI Summer School HCI+AI for Social Good Track: among the 50 students selected for the school. 	<i>Aug '20</i>
	<ul style="list-style-type: none"> Member, Organizing Committee, American Express: Organized colleague engagement events. 	<i>Oct '19 - Present</i>
	<ul style="list-style-type: none"> Planted tree saplings as part of a Tree Plantation Drive by American Express. 	<i>Aug '19</i>
	<ul style="list-style-type: none"> Volunteered to teach underprivileged kids at an NGO as part of Community TeamWorks(Goldman Sachs). 	<i>Jun '18</i>