Arun Sharma

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RESEARCH INTERESTS Pattern Mining, Spatial-Temporal Data Mining, Database Systems, Big Data and High-Performance Computing.

EDUCATION

University of Minnesota, Twin Cities   Fall 2018 – Present
Doctor of Philosophy in Computer Science
Advisor: Prof. Shashi Shekhar [Bio]

State University of New York at Buffalo, New York   Fall 2016 – Spring 2018
Master of Science in Computer Science
Advisor: Dr. Varun Chandola [Bio]
Thesis: Spatial-Temporal Data Management with In-Memory Databases: A NetCDF perspective [pdf] (abstract).

Gautam Buddha University, India   Fall 2015 – Spring 2016
Master of Technology in Intelligent Systems and Robotics
Thesis: Comparative Analysis of Supervised Classification on Multispectral Dataset with Ensemble Learning [pdf].

Gautam Buddha University, India   Fall 2011 – Spring 2015
Bachelor of Technology in Computer Science and Engineering
Thesis: Intuitive K means method for Renal Calculi Detection in Ultrasound Images [pdf].

EXPERIENCE

NASA Europa World Wind Challenge, **NASA Ames Research Centre, USA**   Summer 2017
Project Assistant under Dr. Varun Chandola
- Majorly contributed to open source ongoing project **webGlobe,** a powerful tool for visualizing and processing spatial temporal weather data by applying statistical analysis techniques such as temporal correlation in a high-performance cluster computing environment (e.g. Spark, HDFS, S3).

Defense Research and Development Organization, Ministry of Defense, India
Defense Terrain and Research Laboratory
Research Intern under Scientist M.K. Kalra   Summer 2015
- Built a scalable interactive system used for real time tonal and textural features extraction of the clouds and their classification for accurate weather prediction using Computer Vision and Machine Learning.

Solid State Physics Laboratory
Software Engineering Intern   Summer 2013, Summer 2014
- Designed a front-end application of ticketing system indigenous to the lab which is being used for day to day user complaint resolution task in the lab today.
- Worked as backend developer for building a virtual marketplace to sell and buy car models which can be searched with many attributes defined in the user query.

TECHNICAL SKILLS

Languages: Python, Java, Scala, R, JavaScript, Bootstrap, JSP, JQuery/Ajax, HTML5/CSS3, SQL, C/C++
Tools: Spark, Keras, Tensorflow, Hadoop, SOLR, Lucene, EC2, Jupyter, Tableau, OpenCV, Scipy, Android
Platform: Windows, Ubuntu, Mac OSX.

PUBLICATIONS.

[1]. Sharma, Arun, Xun Tang, Jayant Gupta, Majid Farhadloo, and Shashi Shekhar. "Analyzing Trajectory Gaps for Possible Rendezvous: A Summary of Results." In 11th International Conference on Geographic Information Science (GIScience 2021)

[2]. Sharma, Arun, Xun Tang, Jayant Gupta, Majid Farhadloo, and Shashi Shekhar. "Analyzing Trajectory Gaps for Possible Rendezvous: A Summary of Results." GIScience 2021-Part I. Schloss Dagstuhl-Leibniz-Zentrum für Informatik, 2020.

[3]. WebGlobe - A cloud based geospatial analysis framework for interacting with climate data.
Arun Sharma, Syed Mohammed Arshad Zaidi, Varun Chandola, Melissa R. Allen, Budhendra L. Bhaduri
ACM SIGSPATIAL 7th International Workshop on analytics for Big Geospatial Data, WA, USA, Nov. 2018

TEACHING

CSCI 5715 Spatial Data Science (Fall 2019)
CSCI 5708 Database Systems (Spring 2019)
CSCI 4041 Data Structures and Algorithms (Fall 2018)