

Omid Jafari

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Education

New Mexico State University, USA
Ph.D., Computer Science, GPA: 3.9
| Jan. 2018 - Jan. 2022

Azad University of Mashhad, Iran
M.Sc., Software Engineering, GPA: 4.0
| Sept. 2014 - Dec. 2017 | Thesis:
*Optimized MapReduce-based
K-Means++ algorithm in Hadoop-GPU
framework*

Skills

Languages: Python (proficient), C++ (proficient), Bash (proficient), SQL (proficient), Matlab (experience), TCL (experience), VB6 (experience)
Python Libraries: Pandas, Numpy, Scipy, GraphLab, Scikit-Learn, Keras, NLTK, Requests, BeautifulSoup, Scrapy, Matplotlib, SpaCy, Genesis
Web: HTML, CSS, Flask
Platforms: Apache Hadoop, MPI, Weka, RapidMiner, Genie

Awards

Scholarships: Distinguished Student Leadership Scholarship | 2019,2020

Travel: ASNMSU to attend ICMR2019, GSC to attend ICMR2019, ASNMSU to attend SIGI2019, GSC to attend SIGI2019

Services

External Reviewer: TKDE'20, KMIS'20, SFDI'20, PVLDB'19, SIGMOD'19, CIKM'19, ICMR'19

Invited Panelist: SISAP'20

College Senator at Associated Students of New Mexico State University | Fall 2019 - Present

Vice-president of Iranian Students Organization | Aug. 2019 - Aug. 2020

Interests

Data Science, Big Data, Query Optimization, Indexing, Distributed Computing

Work and Research Experience

Graduate Research Assistant New Mexico State University 1/18 - Now
LSH Survey
Evaluated LSH-based algorithms for similarity searches in High-dimensional spaces. (C++)

roLSH

Developed an efficient machine learning based technique to improve any LSH-based data-independent algorithm. (Python, C++)

mmLSH

Developed an LSH-based index structure for query processing with a content-based image retrieval application. (C++)

bitmapLSH

Developed bitmap-based indexing for similar image retrieval. (C++)

rtLSH

Compared LSH algorithms for real-time processing. (C++, Python)

qwLSH

Developed cache-conscious indexing for LSH algorithms. (C++)

Summer Intern Vigilant Technologies, Tempe, AZ 6/20-9/20
Developed an NLP data science engine in the domain of satellite launches.
Utilized RabbitMQ message bus in a cluster of worker nodes.

Graduate Research Assistant Azad University of Mashhad 12/14-10/15
M/M/1 Queue Analysis
Simulated M/M/1 queue and did a case study on a bank call center. (Matlab)

Founder and Developer HyperIRC 1/12-1/16
Provided customized bouncers and bots to OnlineGamesNet IRC users, and did Linux server administration and network programming.

Peer-Reviewed Publications

- “Improving Locality Sensitive Hashing by Efficiently Finding Projected Nearest Neighbors.” in *SISAP2020*.
- “mmLSH: A Practical and Efficient Technique for Processing Approximate Nearest Neighbor Query Workloads in High-Dimensional Spaces.” in *SISAP2020*.
- “SatelliteNER: An Effective Named Entity Recognition Model for the Satellite Domain.” in *KMIS2020*.
- “Efficient Bitmap-based Indexing and Retrieval of Similarity Search Image Queries.” in *SSIAI2020*.
- “qwLSH: Cache-conscious Indexing for Processing Similarity Search Query Workloads in High-Dimensional Spaces.” in *ICMR2019*.
- “Drawbacks and Proposed Solutions for Real-time Processing on Existing State-of-the-art Locality Sensitive Hashing Techniques.” in *SIGI-2019*.
- “M/M/1 queue analysis and case study of a call center.” in *ICKIS2015*.

Relevant Coursework

TA Database Management Systems I, Database Management Systems II, Distributed Databases
Lecturer Matlab Simulink, Computer Systems Modeling
Student Applied ML I, Data Mining, Distributed Systems