Abhee Lalitkumar Parekh

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SUMMARY

Master's in Computer Science student who is passionate about innovative technologies with skills in algorithm design, data structures, and object-oriented design. Seeking a Software Developer internship position.

EDUCATION

Master of Science in Computer Science with Big Data Concentration — Graduating Dec 2021
Arizona State University, Tempe, Arizona — GPA 4.0 / 4.0

Bachelor of Technology in Avionics — Graduated May 2017
Indian Institute of Space Science and Technology, Trivandrum, India — GPA 8.47 / 10.0

TECHNICAL SKILLS

Software and Cloud Services: AWS, MongoDB, Tableau
Programming: C++, Java, Python, VHDL, PostgreSQL, Hadoop, Spark
Other: Microsoft Office, Git, Linux OS, Tensor Flow, Flutter, Microservices

PROFESSIONAL EXPERIENCE

Scientist/Engineer 'SC', Indian Space Research Organization, Bangalore, India — 8/2017 – 10/2019

- Designed and tested onboard solid-state recorders and qualified deliverables to spacecraft checkout team
- Developed an application software to extract high speed telemetry parameters for solid state recorder from spacecraft data
- Developed a simulator using FPGA based architecture to test the solid-state recorder

Research Intern, Indian Space Research Organization, Ahmedabad, India — 6/2016 – 7/2016

- Developed a Fast Fourier Transform algorithm with software based implementation to replace the existing FPGA implementation on Zynq-7000 SoC
- Improvised the software implementation with the help of SIMD NEON coprocessor by a factor of 8 using libraries from Project Ne10 to meet critical timing requirements

ACADEMIC PROJECTS

Big Table implementation on Java Minibase, Arizona State University, Tempe — Spring 2020

- Studied and adapted the relational database system called Java Minibase, for implementing non-relational database system like Big Table for storing sparse data.
- Developed clustered indexes with B-Trees for the Big Table to reduce the execution time of map operations like batch insert and querying the database
- Re-designed the Big Table database to store maps with different indexes in the same table and added operations like Row Sort, Row Join and Map Count to increase the functionality of the database system

Distributed Geospatial Query Processing, Arizona State University, Tempe — Spring 2020

- Designed a geospatial query on New York City Yellow Cab taxi trip records with Apache Spark running on AWS EC2 instances to perform hot zone and hot cell analysis (Getis-Ord statistic)
- Measured and analyzed performance parameters like Runtime, Memory Usage and Communication Cost of Spark Cluster with AWS CloudWatch by varying the input file size and number of nodes in the cluster

Artificial Intelligence, Arizona State University, Tempe — Spring 2020

- Designed a reinforcement learning agent with Q-learning technique to solve the Wumpus World problem in a stochastic environment
- Analyzed and observed the effect of parameters like Exploration factor, Learning Rate, and Discount factor on the agent performance
- Compared the performance of the reinforcement learning agent with knowledge-based agent

ACHIEVEMENTS

Engineering Graduate Fellowship on merit-basis, Arizona State University, Tempe — Fall 2020