Vamshi Pasunuru

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RESEARCH INTERESTS

Database Systems (Query Optimization, Data Analytics), Algorithms.

EDUCATION

Indian Institute of Science (IISc), Bangalore, Karnataka, India
Department of Computer Science and Automation (CSA)
  M.E , July 2014-16 (expected)

- Focus : Database Systems
- Advisor: Prof. Jayant R. Haritsa

Osmania University, Hyderabad, Telangana, India.

  B.E, Computer Science and Engineering , June, 2014

EXPERIENCE

Technical student community, **Microsoft, India** - June 2011-12.
Teaching Assistant, **Database Management System, CSA, IISc** - Aug-Dec 2015

SELECTED PROJECTS

Predicting Query Execution Time   **June 2015 -**
PostgresSQL query optimizer's cost model is insufficient for accurately predicting execution time. In this work, we explored the use of machine learning techniques to predict the cost of a given query plan. Initial results show that supervised learning models produce decent estimates both for static and dynamic query workload.

Finding similarity across relations using Support estimation   **January-May 2015**
Developed a sampling based estimation algorithm to find the similarity across relations. Goal is to find the similarity by looking at a fraction of data at both source as well as target and come up with relevant attributes to estimate similarity.

Enhancing NECTAR   **January-May 2015**
NECTAR(Nash Equilibria CompuTAtion Resource) is a software tool for computing Nash equilibria of strategic form games and extensive form games. As part of the project, we integrated an open source linear programming solver "lpsolve" into the package and also made it web-accessible.

Analytics on Encrypted Database   **August-December 2014**
Developed techniques to perform Nearest neighbour queries on 2-Dimensional encrypted data. The solution deals with partitioning encrypted data into Voronoi cells to have minimal data transfer over network. We have also proposed an extension to deal with higher dimensional data.

Wordtrix   **[B.E project] August 2013-June 2014**
Built an on-line multi-player game based on Boggle (An old word puzzle). As part of this, we developed algorithms to generate games which have sufficient score, protocols to ensure accurate timing and to maintain the user's progress.

Free SMS   **[Hobby project] August 2011-December 2013**
Built a mobile app which aggregates several free on-line SMS portals each having certain restrictions. As the Services are unreliable, app automatically picks the best service among all feasible services. Got **1 Million** downloads in windows phone store alone!

OTHERS	• Secured All India Rank- 86 in Graduate Aptitude Test in Engineering (GATE)- 2014. • Google APAC 2016 University Graduates Test Round C: 209/1416. • Microsoft Imagine Cup 2012 Software Design (India) Top 33 Team. • Won multiple hackathons including Intel innovation challenge at IIIT Hyderabad and Windows 8 camp 2012 at Bangalore. • Semi-active competitive programmer. Topcoder : Rating 1294, Country rank 110/2300. Handle : **vamshipasunuru** • Developed a ML model with 96% accuracy at IISc open days 2013 twitminer (an online machine learning programming contest). • Morgan Stanley Codeathon 2015, Rank: 168/ 4153. • World Cup Semifinals - University Level CodeSprint, Rank: 280/ 1411.
REFERENCES	1. Prof. Jayant R. Haritsa , Chair, CSA Dept, IISc. (haritsa@dsl.serc.iisc.ernet.in) 2. Prasad M Deshpande, STSM and Manager, IBM Research, Bangalore.(prasadmd0@gmail.com)
DECLARATION	I hereby declare that all the details furnished above are true to the best of my knowledge and belief.

VAMSHI