# Sudipto Das

**PhD Candidate**, Computer Science, UC Santa Barbara, Santa Barbara, CA 93106-5110, USA.

6750 El Colegio Rd Apt 328, Goleta, CA 93117, USA.
+1 (805) 403-1146 • sudipto@cs.ucsb.edu • http://www.cs.ucsb.edu/∼sudipto

## Research Interests

Databases, Distributed Systems, Large Scale Data Management Systems, and Data Streams

## Education

**UC Santa Barbara** • PhD in Computer Science, Expected March, 2011 • CGPA: **3.96/4**

**Major courses:** Transaction Processing, Computational Geometry, Information Retrieval and Web Searching, Algorithm Analysis, Database Support for Multimedia, Mobile Computing, Implementation of Modern Programming Languages, Intelligent Wireless Systems, Advanced Networking, Advanced Distributed Systems.

**Jadavpur University, Kolkata, INDIA** • Bachelor of Computer Science and Engineering **(First Class, Honors)**, Graduated June 2006 • CGPA: **9.21/10**

## Work Experience

• **UC Santa Barbara - Department of Computer Science** (Fall 2006 - present)
***Graduate Student Researcher and Teaching Assistant***

• **IBM Almaden Research Center, San Jose, CA** (Summer 2009)
***Summer Intern, Mentor: Yannis Sismanis, Manager: John McPherson***
*Scalable Analytics and modeling the Cloud using Hadoop framework.*

• **Google Inc., Mountain View, CA** (Summer 2007)
***Software Engineering Intern, Mentor: Shilpa Kolhar, Manager: Johnny Chen***
*Worked as a Software Engineering Intern in team* **LocalGIS** *working towards importing Geo-Spatial data sets like Crime, Traffic Accidents, Parcels, Health, and Pesticide to name a few. Programmed in both Java and C++ and worked with various Google state-of-art technologies such as the Crawl Infrastructure, Google Base, Map-Reduce and so on.*

• **IBM India Pvt. Ltd., Kolkata, INDIA** (Summer 2005)
***Summer Intern, Mentor: Anup K. Ghosh, Manager: Amitava Mukherjee***
*Worked towards integrating an SIP phone into the SAP Enterprise portal and worked in J2EE based architecture.*

## Research and Project Experience

• **"Scalable Data Management in Cloud Computing Infrastructures"**
Advisor: **Prof. Divy Agrawal & Prof. Amr El Abbadi, Dept. of Computer Science, UCSB.**
*Utility computing or Cloud Computing is projected to take over critical business tasks of different corporations. These applications pose different challenges towards providing efficient and scalable access to data. In addition to scale of data, different applications require multi-key atomic access, a feature which the present day key-value stores such as Dynamo, Bigtable or PNUTS lack. In this project, we are exploring challenges for data management in these infrastructures and supporting these multi-key operations for modern Web 2.0 applications. We refer to this as the challenges for the macroscopic scale of data management.*

• **"Exploring Intra-Operator Parallelization of Data Stream Operators"**
Advisor: **Prof. Divy Agrawal & Prof. Amr El Abbadi, Dept. of Computer Science, UCSB.**
*Inherent parallelism in modern multi-core architectures, such as Sun UltraSPARC T2 or Intel Core 2 Quad, present new challenges for developing concurrent structures and algorithms for data processing. Intra-operator parallelism is an important issue for efficient execution of long standing data stream queries in these architectures. In this work, our goal is to design scalable concurrent structures and algorithms for data stream processing targeted for efficient performance on the modern multicore architectures. These are challenges in microscopic scale of data management.*

• **"ReTiMon: A Real Time Network Monitor"**
Advisor: **Prof. Elizabeth M. Belding, Dept. of Computer Science, UCSB.**
*Monitoring Wireless Networks and analyzing their performance is one of the next frontiers of research in Wireless Networks. In this project, we designed a tool that would monitor a Wireless Network in real-time and provide some analysis and real-time statistics of the network. The front-end was built using JFC Swing and the back-end consisted of Perl scripts working with WireShark (formerly ethereal) and MadWiFi drivers.*

• **"QoS Routing in Wireless Mesh Networks based on Multiple Metric"**

Advisor: **Prof. Ben Zhao & Prof. Heather Zheng, Dept. of Computer Science, UCSB.**

*Wireless Mesh Networks are an emerging field of research in the recent years. Our work is aimed at providing QoS guarantees based on three metrics, viz. Minimum Bandwidth, Maximum Delay and Stability.*

• **"Implementing a Distributed Electronic Voting System"**

Advisor: **Prof. Amr El Abbadi, Dept. of Computer Science, UCSB.**

*The system consists of a collection of voting booths (approximately 5-10) that are each running on a different physical machine. The voting booths must record the votes in a fault tolerant way and calculate voting tallies in a distributed fashion. The system is implemented in Java.*

## Selected Publications

• **"Anonymizing Weighted Social Network Graphs"**, *In ICDE '10 & UCSB Technical Report.*

• **"Thread Cooperation in Multicore Architectures for Frequency Counting Over Multiple Data Streams"**, *In VLDB '09 and UCSB Technical Report.*

• **"ElasTraS: An Elastic Transactional Data Store in the Cloud"**, *In Usenix HotCloud '09 Workshop.*

• **"Clouded Data: Comprehending Scalable Data Management Systems"**, *UCSB CS Technical Report.*

• **"CoTS: A Scalable Framework for Parallelizing Frequency Counting over Data Streams"**, *In ICDE '09 and UCSB Technical Report.*

• **"CAM Conscious Integrated Answering of Frequent Elements and Top-k Queries over Data Streams"**, *In SIGMOD/PODS Workshop DaMoN '08.*

• **"QUORUM: Quality of Service in Wireless Mesh Networks"**, *In MONET 12(5-6), April 2008.*

• **"Sender Side Intelligence for TCP Throughput Enhancement in Wired-cum-Wireless Networks"**, *In PIMRC 2007.*

## Technical Skills

- Proficient in software development in Java, C, C++.
- Familiarity with Concurrent programming, Distributed systems, Database design, SQL, HTML, Linux Shell Programming, Perl, LaTeX.
- Experienced in Linux, Windows, and Solaris environments.
- Experienced with MapReduce, Hadoop, HBase, Hive.

## Honors and Awards

- Outstanding Teaching Assistant for Graduate Distributed Systems, Fall 08.
- TCS-JU Best Student Award for 2006, Computer Science Dept., Jadavpur University, Kolkata.
- UC Senate Travel Award for VLDB 2009.

## Professional Activities

- Member of the Association for Computing Machinery.
- External Reviewer for SIGMOD 2008, CIKM 2008, ICDE 2009, EDBT 2009, SSDBM 2009, DaMoN 2009, SIGSPATIAL 2009, ICDE 2010, TODS, VLDB Journal.
- Served as Graduate Student Association representative in departmental Colloquium committee 2009.
- Mentored a high school student with UCSB Summer Sessions in Summer '08.

## References

Available on request.