

# Sushovan De

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## Objective:

A challenging position in information retrieval and databases.

## Education:

**2008 – Present:** PhD in Computer Science,  
Arizona State University GPA 4.00 / 4.00

**2003 – 2007:** Bachelor of Technology in Electronics & ECE,  
Indian Institute of Technology, Kharagpur CGPA of 8.27 / 10

## Areas of interest:

**Information Retrieval:** Built an end-to-end system that does unsupervised data cleaning on both offline and autonomous databases. Used Bayesian networks to model the data, and used error model to find the best correction. Implemented a novel query rewriting scheme to efficiently get results from autonomous / web databases.

**Databases:** Wrote novel algorithm for mining and evaluating functional dependencies on probabilistic data, including extending definitions for conditional and approximate dependencies to probabilistic data.

## Professional Experience:

### **May-Aug 2011: IBM India Research Lab**

Intern: Created a novel algorithm to annotate entities in documents using signals from the entire corpus. Used a linear programming technique to disambiguate entities crawled from various news sources. A patent application was filed for this algorithm.

### **July 2007 – July 2008: Microsoft India R&D**

Software design engineer: Designed and wrote code in C++ for the Applets and Gadgets group in Windows 7.

### **May-July 2006: Yahoo Software Development, India**

Intern: Created a prototype of a new version of Yahoo! Mail that targeted users with relatively older browsers. Achieved an award for exceptional performance.

### **Nov 2003 - Dec 2006: Innovations Lab, IIT Kharagpur**

Active member and Group head of the Java group: implemented a solution to digitize the hall libraries. Created software for Training and Placement Cell, IIT Kharagpur, which is still being used today.

## Phone Apps:

- Car Scar: **Awarded national top-10** in the “Big App on Campus” event. This is real-time action-strategy game written in XNA where the player plays against AI to attack an enemy car.
- Robonom: **Featured** on Windows Phone marketplace multiple times. A strategy game where the player has to find the smallest possible program to make a robot pick up all items in the map.
- Phoenix Bus Times: Utility to show upcoming public transport times at a glance
- Quickpaste: Utility to save snippets that can be copied to clipboard in one touch

## Papers in Submission:

Rohit Raghunathan, **Sushovan De**, Subbarao Kambhampati: Bayes Networks for Supporting Query Processing Over Incomplete Autonomous Databases – to appear in JIIS.

**Sushovan De**, Yuheng Hu, Yi Chen, Subbarao Kambhampati: BayesWipe: A Bayesian Framework for Unsupervised, On-Demand Data Cleaning – submission in progress to VLDB 2014

**Sushovan De**, Subbarao Kambhampati: Defining and Mining Functional Dependencies in Probabilistic Databases – submission in progress to JIIS

## Relevant Coursework:

**Graduate:** Information Retrieval, Data Mining, Machine Learning, Theory of computation, Algorithms, Artificial Intelligence, Distributed Operating Systems, Software Engineering.

**Undergraduate:** Computer Architecture and Operating Systems, Soft Computing Tools, VLSI, Digital Communications, Digital Signal Processing, Information Theory and Coding.

## Other Projects:

- Serial Communication Protocol to Ethernet convertor – designed and implemented an embedded microprocessor based system to convert and multiplex serial data to Ethernet.
- H.264 codec development using Cradle MSDP Hardware – integration and implementation of modules to encode video to H.264 format.
- Searching for Music files based on tone signature detection.

## Programming Languages:

- C#, Java, C++ – over 8 years of active coding
- PHP, JSP, SQL and database management HTML and JavaScript

## Awards and Honors:

- Recipient of the National Talent Search Scholarship, NCERT, New Delhi.
- Recipient of the Jagadis Bose National Science Talent Search Scholarship.
- Placed in the National top 1% in National Physics Olympiad and qualified for the national level.
- All India rank 313 in the IIT JEE mains examinations 2003, state rank of 4th in the All India Engineering Entrance Examination 2003, and rank 56 in West Bengal Joint Entrance Exam.