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Profile Summary

- Operating Systems developer at Microsoft Corporation
- MS in Computer Science from Stanford University; systems track, graduated in June 07.
- 2.5 years of software development experience
- Extensive experience programming in C, C++, Java, Java script
- Enjoy solving interesting problems and working on new projects and ideas.
- Academic and industry experience with Unix, Linux and Windows environments, distributed systems, network programming and developing large software systems.

Education

Master of Science, Computer Science — *June 05 - June 07*
Stanford University, California, — *GPA: 3.8*
Specialization: Systems

Coursework:
Operating Systems, CS140 — Distributed Systems, CS244B
Databases System Principles, CS245 — Algorithms Design and Analysis, CS161
Sensor Network Systems, CS344A — Advanced Topics in Operating Systems, CS240
Computer Networks, CS244A — Advanced Topics in Compilers, CS243

Continuing Education — *Dec '04*
Indian Institute of Science, Bangalore. ("*Proficience*")
Topic: Computer Networks and Protocols.

Bachelor of Engineering — *June 03*
Major: Computer Science and Engineering, — *GPA: 3.8*
Sri Jayachamarajendra College of Engineering, Mysore

Work Experience (with Selected Projects)

Microsoft Corporation, Redmond, WA — *Aug '07 – current*
Software Development Engineer
Working in the Advanced OS Group (Cloud Infrastructure Services group) researching and developing the next generation distributed Operating System platform (Cloud OS) under Amitabh Srivatsava. Working in the Fabric Controller Team investigating job allocation schemes and service migration issues with Yousef Khalidi.

Computer Science Dept., Stanford, CA (1.5 years) — *Jan '06 – July '07*
Research Assistant
Working in multi-agent group under Prof. Yoav Shoham in Stanford AI Lab. Projects with Prof. Ronen Brafman, (and shortly with Prof. Scott Klemmer),

- **Preferences over Sets:** designing algorithms to selecting optimal subset from a given set of objects.
- **ARMP and ButterflyNet**: designs for adaptive choices through constrained optimizations and learning.

Microsoft Corporation, Redmond, WA — *June '06 – Sep '06*
Software Development Engineer Intern
Worked as an intern in the Connected Systems Division (Windows Connected Framework, Indigo)

- **WCFClient** : Navigate web services that expose WSDLs and invoke operations dynamically on them.
- **WCFImport** : Provide a way to download and import metadata of a web-service and generate and compile the code and configuration associated with this service.

PI Corporation, Bangalore *(http://www.picorp.com)* (1.5 years) — *June '04 – Dec '05*
Software Design Engineer
Offered to be a part of the then 6 member startup that is building a next generation software that will allow users to create, store, repurpose, share and access personal information in novel ways. As a developer in the Application and App Framework team, helped build the team along with its initial prototypes and frameworks.

- **Search Feature**: was responsible for designing, developing and owning the search tool of PI app.
  AJAX implementation for IE/Gecko, — Incremental Search Framework
  Canned Queries (named query) f/w, — Basic query text grammar & parsing framework.
- **Auto-Complete/Auto-Suggest Framework**: General js+xquery library to be used to support a
- **xquery fn: routines** : implementing the basic routines in the xquery engine of PI
- **File Import** : framework to import and store files on PI platform

Talisma Corporation, Bangalore *(http://www.talisma.com)* (1 year) *July '03 – June '04*
Software Development Engineer
Selected from campus, worked as Software Developer in the Tech Team and the Platforms Team.

- **Cache Management :** session independent caching framework for Talisma® metadata caching
- **Wisteron Framework :** tool to harness idle computing power for running configurable jobs by admin
- **SQL/Oracle Porting :** investigated and prototyped porting the sproc and xproc heavy database layer of Talisma®, from MS SQL, to Oracle.

Academic Projects

IRouter: A TCP/IP Router and TCP. *Feb '07*
The router is a fully functional Internet router in that routes real traffic. (user process using Stanford Virtual Network System). Handles ARP request/replies, ARP caches, provides timeout guarantees and IP routing. Implementation includes a TCP layer with sliding windows and goback-N.

DRFS: Distributed Replicated File system *Spr '06*
DRFS implements user level client and server prototypes for a distributed file system in which the files are replicated. The purpose was to explore a service specific protocol, relying on transactions for reliable delivery rather than conventional transport techniques.

APoxy: A Web Proxy *Jan '07*
A multithreaded http1.X supporting web proxy that passes requests and data between a web client and a web server, serving cached pages to multiple clients.

MazeWar: Distributed Game *Spr '06*
Mazewar is a distributed, multiplayer game that allows each player to control a rat in a maze and is based on the X Window System version of Mazewar

Pintos Operating System. *Aut '05*
An operating system framework for the 80*x*86 architecture that implements support for kernel threads, loading and running of user programs, virtual memory and a file system.

Integrated Smart Home, *Jun '03*
Advisor: Dr. CN Ravikumar, Prof. and Chair, Dept. of Computer Science, SJCE
(Technology transferred to SEED, Software Technology Park of India, SJCE-STEP (Software Technology Entrepreneur Park) for further development and manufacturing.

File Sharing Application on Peer to Peer Networks *Jun '02*
Project was selected and awarded a prize for the finals of 'Impetus 2002', a Software Design Contest, conducted by IEEE, UVCE (Univ. of Visveswariah College of Engineering) Chapter.

Implementation of NAPT(Network Address Port Translator) *Dec '02*
A Linux2.4.2 acted as the NAT box and completely hid a 10-node IPv4 LAN from the Internet.

Other projects as a part of course work included a Full Screen Text Editor [Jun 01], an Inventory Management System for an automobile industry [Jun 02], a Web based Message Board using CGI [Dec 02], Game of Snooker on JAVA[Dec 02], a Basic Window Management Package for Browsers [Oct '05], Discovery and reliable transport implementation for Wireless Sensor Devices [Jun '06]

Research Work

- **TINX:** A Tiny Index Design for Flash Memory on Wireless Sensor Devices. Working with Prof. Philip Levis, we are exploring sophisticated data structures and algorithms that work around the constraints and limitations of flash memory to provide an efficient indexing mechanism to allow value based and time based range queries.
- **MStore:** As in-network and local node processing becomes viable, sensor memory is more relevant. We are investigating storage hierarchies and abstractions experimenting with various flash memory chips.
- **Preferences over Sets:** With Prof. Ronen Brafman, investigating value function based approach to selecting an optimal subset from a given set of objects. In particular, how compiled TCP-nets can be used to handle this problem against preference-based constrained optimization.
- **ARMP and ButterflyNet**: Working as a Research Assistant with Prof. Ronen Brafman and Prof Scott Klemmer on Adaptive choices through constrained optimizations and learning.

Publications / Research Papers

Peer Reviewed:

- *"TINX: A Tiny Index Design for Flash Memory on Wireless Sensor Devices"*, in the proceedings of the 4th ACM Conference on Embedded Networked Sensor Systems (SenSys, 2006)
- "*MStore: Enabling Storage-Centric Sensornet Research*", Submitted to Information Processing in Sensor Networks (IPSN), Sensor Platforms Tools and Design Methods, (SPOTS, 2007)
- "*Computing Optimal Subsets*", in the proceedings of the 22nd conference on Artificial Intelligence, Technical paper. (AAAI, 2007)
- "*Layered Virtual Binary Search Trees for Efficient Information Access Over Self Organizing De-centralized Peer to Peer Networks*", Published in proceedings of IEEE 'Cyberia' 2003, National Level Technical Symposium, (Networking and Communication section, April 2003)

Other:

- *"Directions in Parallel and Concurrent Programming"*, technical report, Advanced Compiling Techniques, 2007.

Projects from the den

Other code that came from coffee and geekness fuelled late nights include three **games** (pong, pool and tic-tac-toe), an active-x web search interface for outlook, a **text2html** converter, five to six **flash** codelets, a Karaoke style **Lyrics Reader,** a console based mp3 player using mpg123 affectionately called **jax**, **ppt to text** import using KDE code, an **mp3 ID3 parser** to parse our ID3 tags and a couple of **Mozilla Firefox Extensions**.

Scholarships and Awards

Scholarships:	NTSE (National Talent Search Examination)
	NLSTSE (National Level Science Talent Search Examination), Ranked 180th
	Scholarship cum Merit Certificate under National Scholarship Scheme, CBSE Examination
Software:	First prize, Paper Presentation Contest, 'Papyrus', 'Cyberia', IEEE, SJCE Chap.
	'Byte Might' (1st), 'Cyberia', IEEE, SJCE Chapter
	'Impetus' (2nd), IEEE, UVCE chapter, Bangalore
	'C your design' (3rd) 'NIECEFEST', ECE Association, NIE
	'Vicious Web' (2nd) 'Infotsav', MCA Association, SJCE
	'E-Quotient' (2nd) at 'NIECEFEST', ECE Association, NIE
Academic:	Certificate of Merit, Central Board Of Secondary Education
	Placed among top 0.1 percent of Successful candidates of AISSE
	Certificate of Credit, Achievement and Distinction, University of New South Wales, Australia

Responsibilities, Activities

Recruiting team for Stanford and Berkley, Microsoft	('07 -)
Working group member, tinyos-storage	('07 -)
Member, tinyos-devel,	('06 -)
Executive Member, IEEE and Computer Society of India, SJCE Chapter	('99-'03)
Placement Secretary, Coordinator, Placement cell, SJCE Placement Office	('02-'03)
Executive Editor, 'Esperanza' College Magazine, 'Graffiti', newsletter of "Jayciana"	('01-'03)
Web Designer, Independent Consultant, Vortexi Pvt Ltd	('02)

Computer Skill Set

Languages	: C, C++, C#, JAVA, JScript (DHTML+ AJAX), XQuery, SQL, Shell, Perl, GTK, Visual Basic, XUL, PHP, Python, NesC.
Software	: MS-SQL Server, Oracle, Apache, msdev, Visual Studio .Net, Eclipse, JXTA, CVS, VSS
OS	: Linux, Unix, Solaris, Windows NT

References available as required.

Updated April 11, 2007