

Debangsu Sengupta

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Software Developer

- M.S. In Computer Science with 1.5 yrs research experience. Graduation: Jan 2010
 - 4+ yrs of software engineering experience at Microsoft.
 - Experience in product design, development, problem solving, technical leadership, mentoring.
 - Interests: Distributed Systems, Application Infrastructure / Frameworks, Security, Identity Management, Networks, Mobile / Social Computing
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Education

Stanford University, CA (2007-2009)

Masters in Computer Science with Research.

GPA: 3.5 / 4.0

Research:

- [PrPI](#) / [POMI](#) Project goal: Build a decentralized, open, social networking platform.

Coauthored:

- "[Architecture and Implementation of a Decentralized Social Networking Platform.](#)" Under review.
- "[Snap2Pass: Consumer-Friendly Challenge-Response Authentication with a Phone.](#)" Under review.

Projects: Distributed Systems

- **Publish-subscribe** middleware system (Java) with high availability, eventual consistency, and predictable latency using asynchronous messages, smart proxy, attribute-oriented interfaces, multicast, msg queues.
- **Replicated File System** (C++) using two-phased commit (2PC). * Multi-player game (C++) supporting a common network protocol and eventual consistency.
- Personalized RSS Feeds (Java): Uniform access to person's resources around the web from a single feed.
- Social Reviews Service (Java): Share public and private reviews with friends. Mentored undergraduate.
- Seminar presentations: Cassandra, Chubby, SIGCOMM papers: Data De-duplication, data center networks (VL2). Familiar with MapReduce/Hadoop, ZooKeeper.

Networking

- Traffic Networking: **Traffic Shaper** (C++): Traffic shaper based on Sigma-Rho regulation using OpenFlow switch/API and NOX network controller. Implemented leaky and token bucket algorithms. 2 person team.

Security

- **Authentication / Authorization** (Java): Federated Identity Management. Custom OpenID consumer / provider to enable single sign-on over web and native applications using challenge-response on Android phone. * Multi factor authentication using SMS. * Evaluated with Facebook Connect prototype.
- Semantic Attribute-based **Access Control** (Java) module using tags and RDF metadata. 4 person team.
- Password manager with salt/pepper * SSL Man in the Middle attack * Cross site scripting (XSS) and Cross site request forgery (XSRF) attack / defense. * Simple Intrusion Detection System (IDS).

Entrepreneurship

- Decorem: Business plan for a **consumer internet startup**. Identifying market opportunities, value proposition, competitive analysis, initial financial projections, sales and marketing plans.

Courses: Readings and Projects in Distributed Systems, Advanced topics in Computer Networking, Research projects in Systems and Security, Databases, Network Security, GSB: Evaluating Entrepreneurial Opportunities.

Professional Experience

Microsoft Corp., Redmond, WA (09 / 2003 – 09 / 2007)

Software Engineer, Office Communication Server (OCS), Data Protection Manager (DPM)

- **Designed and developed tools and infrastructure** (C#) for multiple successful, on-time releases in new

markets. * Manageability features e.g. WMI/MMC in OCS 2007, LCS 2005 releases.

* Events Manager, Shadow Copy in DPM V1. * Tools for code auto-generation during build passes.

- LSFuzzLib for Security **Fuzzing** (C#): Developed a library to enable dumb and smart fuzzing of various product components. Identified product issues that were fixed prior to release.
- Led OCS team in product-wide **Security push**, and developing a team-wide Security plan to highlight/execute on best practices. Gained approval from management for proposed roadmap in the product cycle. Initiative recognized internally at Microsoft. Recognized to be in top 15% of team.
- Helped organize **cross-group panel discussion** on design patterns. Introduced initiatives like fault injection, participated in Code Coverage analysis to improve product quality.
- **Mentored** six teammates in various capacities to improve technical skills.
- Delivered a new user guide including best practices and sample code to train team members on SCM/build systems, and libraries / frameworks. Provided live training and reduced ramp-up time.
- Interviewed and made candidate recommendations for team positions in Redmond and India.

Microsoft Corp., Redmond, WA (05 – 08 / 2002)

Software Engineer Intern, MSN Core

- Designed a .Net application (C#) that validated functionality of core integration components across MSN properties like Hotmail, Passport, Messenger, Alerts, Groups. * Helped quantify and co-relate failure rates.

EMC Corp., Southboro, MA (06 – 10 / 2001)

Software Engineer Co-op, Clariion Software Engineering Tools

- Implemented a web publishing system that utilized load balancing and uniform access control features.

Education (ctd.)

University of Illinois at Urbana-Champaign, IL (01 – 06 / 2006)

GPA: 4.0 / 4.0

- **Graduate Course:** Software Engineering II. Project: Dev lead on a location-based real-estate and job search web service in Java. Managed six team members in several time zones in the US and South Korea.

University of Massachusetts at Amherst, MA (09 / 1999 – 05 / 2003)

GPA: 3.8 / 4.0

Bachelor of Science in Computer Science (Honors: Magna Cum Laude)

- **Undergraduate Honors Thesis.** Awarded **Honors Research Fellowship.**
- **Graduate Networking Labs:** Studied, configured and measured the internals of several network protocols (RIP, OSPF, BGP, TCP, UDP, DNS, DHCP) in a network using Cisco routers, switches and Linux machines.
- **Honors Projects:** Led a 4 member in developing the audio interface of a racing game for the visually impaired. Java features for web-based question answering system. Business plan for distance learning.

Skills

- **Programming:** Java/C#/C/C++, XML. **OS:** Windows, Linux, Mac OS X. **Tools:** SCM/Build tools e.g. SVN/MVN. **Protocols:** ARP, RIP, OSPF, BGP, TCP/IP, UDP, DHCP, DNS, SIP.

Honors

- **Stanford:** Elected student-faculty liaison for the Computer Science department. 2008-2009.
- **Microsoft** Ship-It awards for multiple products. Top 15% of team. 2003 – 2007.
- **UMass:** Commonwealth College Scholar, Dean's List each semester enrolled * Graduated Magna Cum Laude * Departmental Honors * Phi Beta Kappa * Honors Research Fellowship. 1999 – 2003.
- Ranked in top 150 by the National Science Talent Search Examination, India. 1996.
- **Thinkquest Internet Challenge Awards:** Led numerous 3-member int'l school teams in developing highly popular, comprehensive, educational web sites that won top global prizes. 1996-2001.