

# VINEET SINHA

FIFTH YEAR GRADUATE STUDENT

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## INTEREST:

Investigation into leveraging interaction to help users manage their information, through the usage of collaborative techniques, user-interface techniques, and/or artificial-intelligence / machine-learning techniques.

## SELECTED PUBLICATIONS:

- **ACM SIGPLAN Conference on Object-Oriented Programming Systems, Eclipse Technology eXchange Workshop – eTX 2005**, “*Relo: Helping Users Manage Context during Interactive Exploratory Visualization of Large Codebases*” by Vineet Sinha, David Karger and Rob Miller.
- **ACM SIGPLAN Conference on Object-Oriented Programming Systems – OOPSLA 2005**, “*Using Dependency Models to Manage Complex Software Architecture*” by Neeraj Sangal, Ev Jordan, Vineet Sinha and Daniel Jackson.
- **Conference on Innovative Data Systems Research - CIDR 2005**, “*Haystack: A General-Purpose Information Management Tool for End Users Based on Semistructured Data*” by David R. Karger, Karun Bakshi, David Huynh, Dennis Quan and Vineet Sinha.
- **ACM International Conference on Management of Data – SIGMOD 2005**, “*Magnet: Supporting Navigation in Semistructured Data Environments*” by Vineet Sinha and David Karger.
- **IFIP TC13 International Conference on Human-Computer Interaction – INTERACT 2003**, “*What Makes a Good Answer? The Role of Context in Question Answering*” by Jimmy Lin, Dennis Quan, Vineet Sinha, Karun Bakshi, David Huynh, Boris Katz and David R. Karger.

## RESEARCH EXPERIENCE:

### **Haystack Project**, MIT, Cambridge, MA. (Aug. 2000 to present)

- Built and evaluated a system for supporting exploration needs of experienced software developers.
- Designed a system to automate information exploration and navigation.
- Designed, implemented, and integrated a custom language into Haystack to ease templating and interaction of HTML pages with our server.

### **Software Engineering Group**, University Of Waterloo, Waterloo, ON. (May 2000 to Aug. 2000)

- Researching the practical applications of WML and VXML for IBM.
- Working on a conversion utility for intelligently converting web-sites to VXML.

### **Intelligent Sensing Systems**, University Of Waterloo, Waterloo, ON. (Sep. 1999 to Dec. 1999)

- Researched on various topics relating to digital image processing.
- Worked on implementing real-time compression on a microprocessor for cameras.

### **Parallel and Distributed Systems Group**, University of Waterloo, Waterloo, ON. (Sep. 1997 to Dec. 1997)

- Researched in the design of a Java Virtual Machine and assisted in its implementation.
- Developed routines for loading Java Class files into the virtual machine.

## EDUCATION BACKGROUND:

### **Massachusetts Institute Technology**, Cambridge, MA (Sept. 2001 to present)

- Helped teach two courses on Artificial Intelligence.
- M.S. in Computers Science (Candidate at the Artificial Intelligence Laboratory).

**University Of Waterloo**, Waterloo, ON (Sept. 1996 to Apr. 2001)

- Helped teach a course on Concurrent Programming and Real-Time Operating Systems.
- Honors B.A.Sc. in Computer Engineering.

**INDUSTRY EXPERIENCE:****Software Design Engineer**, 3C Infotech, Waterloo, ON. (Jan 2001 to Aug. 2001)

- Developed a system to support transparent IP-tunneling between multiple disjoint networks.

**Product Development Lead**, Watminds Consulting, Toronto, ON. (Sep. 2000 to Dec. 2000)

- Managed a group of 5 developers in developing an instant messaging-based auction platform.
- Designed and implemented the core of the Noah project.

**Software Design Engineer**, Microsoft Corp., Mountain View, CA. (Jan 2000 to Apr. 2000)

- Implemented functionality to do lossless image manipulation in Microsoft Office.
- Added functionality to increase accessibility for selecting objects in Office Art.

**Software Design Engineer**, Microsoft Corp., Redmond, WA. (May 1999 to Aug. 1999)

- Applied Web Technologies to convert a tax management application to a Web-Based implementation.
- Re-architected and implemented a hierarchical data storage provider.

**Test Technology Engineer**, PMC-Sierra, Vancouver, BC. (Sep. 1998 to Dec. 1998)

- Gained extensive experience in debugging gate-level models of devices in Verilog HDL for PowerFault-IDDQ.
- Automated various tasks in debugging models using Perl.

**Software Engineering Aide**, Motorola Canada Ltd., Toronto, ON. (Jan. 1998 to Apr. 1998)

- Took part in the test design, plan and scripts execution to find bugs in the system.
- Wrote scripts in C for simulating messages by mobile radios to real-time applications in a site controller.

**Junior Software Engineer**, Castek Software Factory, Toronto, ON. (May 1997 to Aug. 1997)

- Added functionality, designed windows and tested operations for components.
- Created standards for test harnesses in client/server relational database operations of components.

**Junior Network Analyst**, VoiceStream Wireless, Chicago, IL. (Dec. 1996 to Jan. 1997)

- Produced computer models to assist in identification of weaknesses in GSM network components.
- Designed and implemented algorithms to accurately calculate complex traffic related functions.

**TECHNICAL PROFICIENCIES:**

- Background:
  - Knowledge of Machine Learning and Information Retrieval techniques.
  - Extensive experience in designing, implementing, and testing software projects.
  - Experience with the design and implementation of internet protocols, real-time operating systems and compilers
  - Knowledge of algorithms analysis and design techniques
- Experience:
  - Java, C/C++, Assembly, Scripting languages (Perl, Python, etc.) and CASE tools.
  - Developing GUI applications and using integration technologies (COM, CORBA, etc)
  - FPGA, PLD programming and simulation using Viewlogic and Xilinx Tools
  - Experience with Linux / Unix, Windows and OS/2

**TEAM ACTIVITIES AND PROJECTS:**

- Founded and presided over a Mathematics and Science Peer Tutoring program.
- Designed and implemented multi-player computer games, computer based tutorials and a matchmaking program for exhibitions and students.
- Founded and helped in the editing of an astronomical magazine.
- Worked on the design of an adaptive remote controller for intelligent appliances.