# Vinay Jain

http://www.vinayjain.info/

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## Education

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| May 2010 | MS Computer Science, at the *University of Southern California. GPA 3.3* |
| May 2008 | Bachelor of Information Technology, *University of Mumbai. GPA 3.65* |

## Relevant Courses

Computer Communications, Web Technologies, Distributed Applications, Natural Language Processing, Machine Learning, Information Integration on the Web, Analysis of Algorithms , DBMS.

## Technical skills

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| Web technologies | JavaScript, HTML, CSS, JSP, PHP, AJAX, Apache web server, Semantic Web and RDF. |
| Programming Languages | C, C++, C#, Java SE, Java ME. |
| Scripting Languages | Python, Matlab, Perl. |
| Development & Design | Visual Studio 2008, Eclipse, Netbeans, Dreamweaver CS3, Autodesk Maya 2009. |
| Distributed Paradigms | Client Server model, Peer to Peer systems, RMI, CORBA, Web Services. |
| Database Technologies | Oracle Spatial 10g, MySQL, JDBC-ODBC Bridge, SQL, XML, Xpath, Xquery, SPRQL. |
| AI Tools | Tiburon, Carmel, Weka, OpenKapow, Mallet, Yahoo Pipes, Dapper.net, Xface, CSLU toolkit. |
| Other | Active Directory (Windows), SSH using Keys, SecureID Authetication, Emacs, Vi, Crontab, Bluecove JSR 82, J2ME Polish. |

## Professional experience

**QA Intern, Beyond Trust**

- Summer 2009. Worked as a QA Intern on the latest release of Power Keeper (Privileged Account Mgmt. Software)..
  - Completed *Regression* and *Unit testing* of a new module in the product called Auto Discovery based on *Active Directory* of Windows.
  - Replicated customer bug and performed *Stress tests* using shell scripts and Crontab for scheduling of tasks.

**Research Programmer at USC Robotics Lab**

- Oct 2009 - Jan 2010. Completed phase I of a *DoD* project jointly being worked on by *International Association for Identification & USC Robotics Lab*.
  - Solely responsible for the research and design of a 3D virtual therapist avatar on an *Android phone* used for the rehabilitation of victims of TBI (traumatic brain injury).
  - Designed the temporal behaviour of various *FAP's (Facial animation parameter's)* involved in creating 6 archetypal emotions for the avatar.
  - Implemented each FAP on the android platform using Blender 3d and Xface toolkit.
  - *Java, Blender 3D, Matlab, Eclipse with ADT Plugin, Xface , CSLU Toolkit and Tortoise SVN.*

## Projects

**Peer to Peer Distributed File-System**

- Built a de-centralized Peer to Peer console based distributed file system using socket programming in *C++ and Java*.
  - Incorporated a menu driven *multithreaded* application for simultaneous Search, Download, and Delete File operations between peers.
  - Designed a protocol and message format for communication between peers exchanging Multicast, Datagram and connection oriented messages.

**Multi Threaded USC Admissions Server**

- Simulated a multithreaded USC Admission server based on Client Server model using TCP like connection based message passing in *C++ and Java*.
  - It offered 6 *stateful and stateless* services to clients with a queue for handling multiple pending requests in FIFO order.
  - Re-Implemented project using other distributed paradigms including *Java RMI API and CORBA.*

**Complete web shopping portal**

- Designed and developed a production quality end to end shopping portal with persistent data storage, concurrency and transcation management.
  - Implemented using front end technologies including *Javascript, AJAX, CSS, XHTML* and back end technologies inlcuding *JSP, MySql* deployed on an *Apache server*.

**Word based machine translation system**

- Developed an end-to-end French to English statistical machine translation system with improved BLEU score than the word lookup baseline model
  - Achieved the improvement by building a Witten Bell smoothed trigram language model over the *Europarl corpus,* using IBM word alignement training model 2 and stack beam based decoder technique.
  - *Python & C++*

**Xbox360 and PC game**

- Worked as Lead engineer to implement a complete ground-up game engine with a game built on top of it in 3 months. http://vinayjain.info/projects.html
  - Collaborated in a team of 4. Responsible for level design in Maya 2009, user interface design, game engine development, and game play.
  - *XNA, C#, Python & Autodesk Maya 2009*

**Bluetooth based Intranet for mobile communication**

- Built a J2ME Midlet to allow mobile clients to interact with a centralized DBMS using an underlying *Adhoc bluetooth network and Bluecove* - an implementation of the bluetooth stack.
  - Ported to different mobile platforms using J2ME Polish.
  - *Java SE, Java ME, J2me Polish, Bluecove for JSR 82 (Bluetooth) and Oracle 9i XE.*

**Autonomous semantic web, calendar scheduling agent**

- Created a web application that finds common vacant time slots within many calendars.
  - Generated schedules keeping in mind semantic information of the calendar events, including constraints such as doctor's appointment, current weather conditions, etc.
  - *Python, JAVA, JavaScript, RDF, SPRQL, Apache & Django web framework*