

# TAPANA GUPTA

1126 W 37th Pl, Apt 3, Los Angeles, CA 90007 (213) 235-6955 [tapanagu@usc.edu](mailto:tapanagu@usc.edu)

---

## EDUCATION

- Dec. 2007 **M.S., Computer Science**, *University of Southern California*, Los Angeles  
Relevant Coursework: Machine Learning, Advanced Artificial Intelligence, Software Multiagent Systems, Computer Vision, Database Systems
- Jun. 2005 **B.S., Computer Science and Engineering (Minor in Economics)**, *Magna cum Laude*  
*The Ohio State University*, Columbus, Ohio  
Relevant Coursework: Knowledge-Based Systems, Computer Networking, System Software, Object-Oriented Systems Analysis, Computer Architecture

## ACADEMIC PROJECTS

- Machine Learning: Predicted Stock Market trends/volatility using Support Vector Machines with Bagging/Boosting
- Multiagent Systems: Demonstrated teamwork in Personal Assistant domains using a *hybrid teamwork architecture*
- Object Oriented Systems: Created a requirements specification document for the pricing system of Progressive Medical, Inc.; Generated detailed use cases and modeled the system using UML
- System Software: Developed a Simulator for the memory and registers of a computing machine of given specifications; Also implemented the Assembler and Linker/Loader for the machine's assembly language
- Engineering Graphics: Built and programmed an autonomous robot using Interactive C, to simulate an apple-picking process

## COMPUTER SKILLS

- Languages: Java, C, C++, C#, Scheme, XML, HTML & SQL
- Platforms: UNIX, Linux, Windows 9x/NT/2K/XP, Macintosh OS 9/X
- Applications: MATLAB, Visual Studio.NET, WEKA, Rational Rose, CADKEY, Xilinx ISE, MS Office

## WORK EXPERIENCE

- Aug. 2005 – Dec. 2007 **Research Assistant**, Computer Science Department, University of Southern California
- Developed a novel algorithm to scale up the number of agents in *distributed sensor networks*, modeled using distributed Partially Observable Markov Decision Processes (POMDPs)
  - Implemented a teamwork architecture based Multiagent Adjustable Autonomy Framework in Java, to support multi-robot, multi-human teams in performing military tactical maneuvers
  - Carried out extensive experiments to evaluate approximate algorithms for POMDPs
- Jun. 2004 – Sep. 2004 **Software Design Engineer in Test**, Microsoft Game Studios, Redmond, Washington
- Worked on an asset management system for production of games
    - Programmed in C# to automate testing of features and reproduce bugs through code
    - Created test cases, performed intensive black-box testing and created bug reports
- Jun. 2003 – Sep. 2003 **Research Assistant**, Laboratory for Artificial Intelligence Research, The Ohio State University
- Programmed in C++ for Computational Geometry applications

## HONORS AND ACTIVITIES

- 2003 – Present Member of Tau Beta Pi
- 2001 – 2005 National Buckeye Plus Scholarship, Prestigious Scholarship, Tradition Scholarship and Engineering Dean's Award at The Ohio State University
- 2001 – 2005 Dean's List, each quarter at The Ohio State University
- 2000 – 2001 Deputy Head Boy of High School (organized school activities and helped maintain discipline)

## PUBLICATIONS

- J. Marecki, T. Gupta, P. Varakantham, M. Tambe and M. Yokoo, "Not All Agents are Equal: Scaling up Distributed POMDPs for Agent Networks", *7th International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, May 2008.
- T. Gupta, P. Varakantham, T. Rauenbusch and M. Tambe, "Demonstration of Teamwork in Uncertain Domains using Hybrid BDI-POMDP Systems", *6th International Joint Conference on Autonomous Agents and Multi-Agent Systems (Demo Track)*, May 2007.
- P. Varakantham, R. Maheswaran, T. Gupta and M. Tambe, "Towards Efficient Computation of Quality Bounded Solutions in POMDPs", *Proc. 20th International Joint Conference on Artificial Intelligence (IJCAI)*, January 2007.

## CITIZENSHIP

Citizen of the United States of America