

Aditya Desai

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Education

- **B.Tech. + M.S.(Computer Science and Engineering)**
International Institute of Information Technology,
Hyderabad(Expected May, 2011)
(Current CGPA on a scale of 10 : 8.75)(Semester Wise :
8.36,8.46,8.83,9.2,8.95))
- **Senior Secondary(Secured 88%)**
Sathaye Junior College, Mumbai(Maharashtra Board)
- **Secondary(Secured 90.13%)**
Madhavrao Bhagwat High School, Mumbai(Maharashtra Board)

Achievements

- Stood 10th in Maharashtra in a Maths Exam in Std.8
- Stood 6th in Maharashtra in a Maths Exam in Std.10
- Gold-Medallist in District level Science Quiz

Major Projects

- **IIIT Project Management Portal (Dr. Vikram Pudi)**
Summer Project, First Year, The IIIT Project Management Portal is developed for providing interface for students both from IIIT and outside for doing projects so that they can discuss the project and chalk out deadlines with professors without actually meeting them. This project was later modified to suit the ITWS III project allotment portal which was used in ITWS III Monsoon,2007. Technologies used were Python, CSS and libraries of python like MySQLdb and mod_python.
- **Games and Games (Dr. Kamalakar Karlapalem)**
ITWS3 Project, 3rd Sem, Developed a Road Fighter Clone for Linux. The game is a car racing game in which the user has to compete against a set of intelligent computers cars and finish the track in a given amount of time. Gaming on LAN was also implemented in this project. The technologies used were OpenGL and C++. SDL was also used to add sound to the game.
- **Quering a Video (Dr. Rajeev Sangal and Dr. Navjyoti Singh)**
AI project, 4th Sem, The project aims at Quering for events in a movie and getting corresponding result for it. This was done by semantic indexing of videos, and permitted high level search of the video. The indexing was done at various levels from each event, to the theme of the video to the entire video itself. The Technologies used are python, mpeg-7 and Onto-Elan.

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- **Implementing a Multi-Agent Simulation Environment (Dr. Kamalakar Karlapalem)**
 Summer Project, 2nd Year, Summer Project, Agent based technology is a paradigm for conceptualizing, designing, and implementing software systems. Based on this fact, the project involves modeling, design, implementation and evaluation of a multi agent driven simulation of a bicycle ridden by a human agent. The methodology used for approaching the problem of simulating the motion of a cycle can be used to simulate other complex process for eg. Working of a chemical plant.
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- **Implementing a Framework for simulating Multi-Agents (DMASF) (Dr. Kamalakar Karlapalem)**
 Honours Project, 3rd Year, 1st Semester, and Agent based technology is often used for studying the possible outcome of any action when there are a large number of entities which are going to be affected by it. This technology deals with millions or billions of agents interacting with each other. The aim of this project is to develop a toolkit which can simulate such interactions given the nature and behaviour of agents in a reasonable amount of time. To simplify the task of simulating these agents on a large number of systems, the toolkit is put on a cloud using the HADOOP framework. The states of the agents are stored using the distributed database HBASE. Technologies used: Python, Hadoop framework, HBASE.
- **Implementing a Distributed Database (Prof. Satyanarayana Valluri) (Ongoing)**
 The task was to implement a distributed database system on three computers with a fully replicated system catalog on all the three systems. Thus with the database fragmented over all the three computers, the major work was to devise an execution plan that Minimized the total cost for executing the query. For this optimization the SDD-1 algorithm was used. Future work is to implement a distributed 2 phase commit protocol for executing update queries.
- **Implementing a Movie Recommendation System (Dr. Vikram Pudi) (Ongoing)**
 The task is to develop a movie recommendation system using a movie rating database similar to the Netflix prize database. We are currently using a clustering approach for clustering similar movies according to stability of user similarity and then applying user based collaborative clustering over the cluster to which the item to be predicted belongs. Thus, this clustering reduces the run time and also the cost of execution. An effort is being made to implement user based clustering and item based clustering so as to increase performance and reduce sum of squared errors.

- Simulated the Linux Shell as a part of OS course (Dr. P.K. Reddy)
- Designed the Pacman game with sound using SDL_MIXER as a part of Graphics course (Dr. P.J. Narayanan)
- Modelled a moving cycle and a stadium in a 3D world as a part of Graphics course (Dr. P.J. Narayanan)
- A graphics API designed for 3D modelling. (Dr. P.J. Narayanan)
- Implementing a Multi-Agent Simulation Environment (Dr. Kamalakar Karlapalem)
 Summer Project, 2nd Year, The project is an implementation of the Research Paper "A MAS simulation of sand piles in a static equilibrium - Breton, Clement and Daniel Zucker" published in the conference Multi-Agent-Based Simulation,2001.
- Indexing a DBMS (Dr. Kamalakar Karlapalem)
 DBMS project, 4th Sem, The project aims at creating "Indexes" on "Multiple Keys" for a DBMS. The Technologies used are C++.
- Implementation of DBSCAN and APRIORI algorithms as a part of Data Warehousing and Data Mining Course (Dr. P. K. Reddy)

Work Experience

- Worked as summer intern in Center for Data Engineering, IIIT Hyderabad during Summer of 2007 and 2008.
- Member of HTML Web Design Team of Felicity (Techno-Cultural Festival at IIIT)
- **Web Application Developed For a Car-Rental Company:** The service manages day to day tasks that typically occur in a small-scale car rental company. It includes tasks like adding cars, deleting them, managing staff and customers, storing information of all licenses of cars and their drivers and warning about the expiry of any license, accepting bookings, informing clients of bookings and the car they have been assigned by sending SMS, accepting fuel records, and in general processing of these records. Analysis of all expenditure and income for any period is provided in the form of graphs which are constructed using Google Graphs API. The application has been recently released and uses the Software as a Service model and is currently at use in one car-rental company and shortly will be used by two or three more. **Technologies Used:** Python, JavaScript, jQuery, MySQL.
- **Web Application Developed For a Coaching Class:** The application can add students who can view the papers they have solved, the marks they obtained, the assignments they have submitted, their attendance and their overall standing their class. An SMS is sent to students after marks of students are entered. The Application is currently at use in one coaching class. **Technologies Used:** Python, JavaScript, jQuery, MySQL.

Skillset

Operating Systems	GNU/Linux, Windows 2000/XP
Programming Languages	GNU/C, GNU/C++
Scripting Languages	Python
Database	MySQL, SQLite
Programming Environments	Vim, NetBeans
Libraries and API's	OpenGL, Hadoop, DMSF
Other Tools	GIMP, Latex, Microsoft Office

Interests

Web Development, Data Mining, Cloud Computing, Artificial Intelligence

End of Curriculum Vitae