

Abhishek SHARMA

PERSONAL DATA

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RESEARCH PAPER

<i>AUG 2017</i> Second Author Irish Machine Vision and Image Processing	Automatic Tracking System for Event Detection and Classification in Tennis The paper manages to merge computer vision concepts with domain knowledge in tennis. It has three modules: <ul style="list-style-type: none">Defining a computable grammar for a tennis match.Using computer vision to extract features from the video, and map them to attributes of the grammar previously defined.Feeding the above obtained data to a machine learning model, for classification purposes.
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WORK EXPERIENCE

<i>AUG-NOV 2016</i> <i>Cyber Security Startup</i>	Software Developer at Authbase.net Involved installation and management of various tools, needed for website scanning purposes along. Also had to automate several tools by linking their results, for least manual intervention during scanning.
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EDUCATION

MAY 2012	Higher Education - St.Ann's Convent School, Lucknow ICSE Board, 94.6%
MAY 2014	Senior Education - Lucknow Public School, Lucknow CBSE Board, 94.0%
JULY 2019 (Expected)	Undergraduate International Institute of Information Technology, Hyderabad CGPA 7.98

COMPUTER SKILLS

Basic Knowledge: JAVASCRIPT, OPENGL
Intermediate Knowledge: C, C++, PYTHON, MYSQL, LINUX

COURSES

DATA STRUCTURES AND ALGORITHMS	DIGITAL LOGIC PROCESSORS
COMPUTER SYSTEM ORGANISATION	SOFTWARE DESIGN
OPERATING SYSTEMS	COMPUTER GRAPHICS
COMPUTER NETWORKS	DIGITAL SIGNAL ANALYSIS AND APPLICATIONS
ARTIFICIAL INTELLIGENCE	DATABASE SYSTEMS*
STATISTICAL METHODS IN AI*	DATA WAREHOUSING AND DATA MINING*

PROJECTS

SEPTEMBER 2017	Mining Pattern in Transactions	DATA MINING
	Developed in Python, the program returns all the frequent itemsets along with association rules for the given database of transactions. The program uses Apriori algorithm to mine the frequent itemsets. The minimum support and minimum confidence can be adjusted according to user requirement using a config file.	
SEPTEMBER 2017	Two Phase Merge Sort Algorithm	DATABASE SYSTEMS
	Written in C++, the code enables user to sort very large multi-column csv file(over 1 GB). In the first phase, the algorithm reads the file to be sorted into the available RAM specified by user in chunks, sorts them using main memory sorting algorithm, and creates several small files. In second phase, it merges these files by taking the top element of each file, and writes it to output files through buffer.	
AUGUST 2017	Mini SQL Engine	DATABASE SYSTEMS
	A mini SQL Engine with Parser, both written in Python, that can parse and operate simple sql queries like SELECT, FROM, WHERE with support for aggregate functions like sum, avg along with join statements.	
APRIL 2017	Distance Vector Routing Protocol	COMPUTER NETWORKS
	The project involved simulation of a computer network which supports distance vector routing using UDP sockets, done in Python. The routing algorithm computes the routing table using Bellman Ford Algorithm, to carry out real time updates to the table based on network changes.	
MARCH 2017	File Sharing Protocol	COMPUTER NETWORKS
	A file system protocol that auto syncs two directories on same or different computers, looking out for any changes in files. It supports file transfer over TCP or UDP protocols along with checksum to verify the contents of the file transferred.	
MARCH 2017	Bloxorz 3D Game	COMPUTER GRAPHICS
	Developed my version of the famous 3D game Bloxorz using OpenGL(C++), with features like different tiles, and holes.	
JANUARY 2017	Ultimate 4by4 Tic Tac Toe Bot	ARTIFICIAL INTELLIGENCE
	A bot that plays ultimate tic tac toe, made using minimax search and alpha beta pruning. Heuristic was developed that analysis board position by measuring and allocating dynamic weights to each cell on the board according to game situation.	
OCTOBER 2016	Mini Shell	OPERATING SYSTEMS
	A mini shell written in C that supports basic terminal commands like ls, echo, cd through fork and exec. Also supports background processes and signal handling.	

ACHIEVEMENTS

- Mentor for First year students, batch 2017.
- Dean's Merit List, Monsoon 2015.