SONAKSHI MATHUR

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PROFILE

A self-motivated and dynamic individual with Master's degree in Computer Science from MNIT Jaipur. I am looking for a suitable job to leverage my education and skills so as to implement new technologies and gain a positive foothold in a business environment that encourages innovation and foresees industrial trends while aligning to the organization vision and goal. Key strengths include the following:

- Computer Programming
- Disciplined and organized approach to a problem
- Excellent verbal and written communication skills
- Team oriented person
- Self motivated having good analytical problem solving abilities
- Result Driven and diligent

EDUCATION

Year	Degree/Certificate	Institution	CPI/Percentage
2015 - 2017	M.Tech, Computer Science	Malaviya National Institute of Technology, Jaipur, India	8/10 CGPA
2008-2012	B.Tech. Computer Science	Govt. College of Engineering and Technology (RTU), Bikaner, India	76%
2008	Class X: CBSE Board	Sophia Sec. School, Bikaner	78%
2006	Class XII: CBSE Board	Kendriya Vidyalaya No.1 ,Bikaner	78%

TECHNICAL SKILLS

- **Programming Skills** - C, C++, and Java.
- **Scripting Languages** - HTML, CSS, PHP, XML, Javasript and Shell Scripting.
- **Operating Systems**- Windows, Macintosh, Linux.
- **Software**- MATLAB, NetBeans, JCreator, Eclipse , Dreamweaver, FrontPage, YACC.

PROFESSIONAL EXPERIENCE

Assistant Professor (Information Technology), Poornima College of Engineering, Jaipur   Feb'2013 – July'20 15

Courses: Operating Systems, Software Engineering, Theory of Computation, Internet Programming, Linux and Shell Programming, Computer Aided Software Engineering Lab, Shell Programming Lab, Internet Programming Lab, UML Lab, Seminar on IT Acts and Project Coordinator.

Worked for 2 years and 5 months as an Asst. Professor in Dept. Of Information Technology, Poornima College of Engineering, Jaipur. Principal responsibilities included teaching duties in the field of Computer Science and Engineering, Project Coordinator for final year students, training the students to brush up their soft skills, news letter coordinator for the department; managing co-curricular activities from time to time and also served as a class tutor thus monitoring the personal and academic growth of students.

Internship - ISRO (Indian Space Research Organization), Jodhpur   June-July, 2011

Conducted research and submitted a detailed thesis report on the topic "LEADING FACETS OF NETWORKING" which primarily covered the areas of Wireless Sensor Networks, MANETS, CLOUD COMPUTING, GRID COMPUTING and MULTICASTING SECURITY ISSUES. Through this research I was able to explore new dimensions   and trends in the Networking field.

MASTER'S THESIS

"Facial Expressions Recognition using various Feature Descriptors"
July'15-May'2017

Supervisor: Dr. Santosh Kumar Vipparthi, Assistant Professor, Department of Computer Engineering, MNIT, Jaipur, India

- Proposed new texture based feature descriptors which provide better recognition rate or classification accuracy as compared to the other state-of-art methods in the field of facial expressions recognition primarily.

- A comprehensive evaluation on two benchmark datasets Cohn-Kanade , Extended Cohn-Kanade and JAFFE datasets reveal the effectiveness of our proposed methods in terms of improvements in the classification accuracy as compared to the other state of art methods proposed in literature.

PUBLICATIONS

- **"Regional Adaptive Affinitive Patterns with Logical Operators (RADAP)"-**manuscript submitted to IEEE Transactions on Image Processing.
- "**Multichannel Distributed Local Pattern for Content Based Indexing and Retrieval**' manuscript submitted to INDICON- 2017,14'th IEEE India Council International Conference 2017, IIT Roorkee.
- **"Quiver representation based eclectic patterns (QUIRE**)", manuscript to be submitted to IEEE Transactions on Image Processing.

KEY ACADEMIC PROJECTS

- **SQL query parser and parse tree generator**
  Implemented SQL query parser and parse tree constructor/generator using YACC (Yet Another Compiler Compiler) which parses SQL queries and creates their respective parsing trees.

- **Meta Search Engine**
  Implemented a meta search engine in **PHP** which searches a given set of keywords from html pages fetched from a particular URL or stored html pages from a specific directory and displays links to output pages based on the category (generated at runtime) for the given keyword.

- **StockMyMoney**
  Developed a web application using **PHP** to project a small model of the Share Market including the use of properly timed updates of currency value of shares and also the income statement generation at the end of each day after sale and purchase of shares.

- **Interpreter for a simple programming language**
  Designed an interpreter using YACC for a simple programming language, which consists of basic mathematical operations along with read and print commands and can analyse and execute the code line by line and also display syntactical errors if any.

- **Implemented 2PL protocol with wound wait deadlock prevention method.**
  Read 'N' number of transactions from input file/files and execute max 4 instructions of a transaction at a time. Display the final schedule of instruction of all transactions with the number of transactions needed to be rolled back if any hereby generating the final order of serializability.

- **"Scrabble" game development**
  Developed a multiplayer Sudoku game in **Java** which works as follows: -
  As soon as a player forms a word then he gets a score which is equivalent to the number of letters in the word that he has formed. The words should not be repeated again and if a player forms a word which may contain multiple words of different lengths, then the length of the longest word will be accounted for scoring. Therefore, the player who scores the most wins.

- **Social networking website**
  Developed a social networking website designed using **PHP** and **MySQL.** Each user is allowed to have a profile, his/her social links and other services. This website allows users to interact and share information with their friends. This website acts as a resource centre where members can get instant information on any assignment, project etc.

- **Kiraaya.com**
  A web based portal designed using PHP,Java Script and MySQL to facilitate people for searching suitable property in their area which can be rented and conversely suitable tenants can also be looked for .The entire system is controlled by an administrator which can handle the user queries and communicate through SMS.

- **E-Voting**
  An online voting system designed using PHP,Java Script and MySQL to make the vote casting system in India efficient and economical. Using this system people can cast votes sitting back home. The entire system is controlled by a central administrator and several regional administrators which keeps all the security issues in concern.

- **SMS Buzz**
  A SMS sending website designed using PHP, Java Script and MySQL to send bulk free messages online.

- **Library Management System**
  A system developed using C and MySQL to manage transactions related to issue and return of books in a college library.

- **Implemented Texture feature descriptors**
  Following texture feature descriptors were implemented using **MATLAB** software as a part of master's thesis research: -
  - LDTP
    [Reference: Local Directional Texture Pattern image descriptor, Pattern Recognition Letters, 2015, Elsevier]
  - LDP
    [Reference: A novel fusion method of PCA and LDP for facial expression feature extraction, Optik, 2014, Elsevier]
  - CLPBP
    [Reference: A Completed Modelling of LBP Operator for Texture Classification, IEEE TRANSACTIONS ON IMAGE PROCESSING]
  - LCP
    [Reference:Local comprehensive patterns: A novel face feature descriptor, Optik, 2014, Elsevier]
  - LGC-HD
    [Reference: Facial expression recognition algorithm using LGC based on horizontal and diagonal prior principle, Optik, 2014, Elsevier]
  - JLBPW
    [Reference: An improved local binary pattern for texture classification, Optik, 2014, Elsevier]

EXTRACURRICULAR ACTIVITIES

- News Letter Coordinator for Department of Information Technology, Poornima College of Engineering, Jaipur.
- Event Manger of a workshop based on "CRYPTOGRAPHY & NETWORK SECURITIES" in Sakshama'10.
- Participated actively in Science and Mathematics Olympiads and received meritorious position.
- Participated in college and school level debate, essay competition and extempore and received prize.
- Hosted many stage events like Teacher's Day, Helper's Day, Republic Day etc.

LEISURE INTERESTS

Keen interest in keeping update to date with the new technological trends, Reading, Listening Music and Travelling.