

OBJECTIVE

To pursue graduate studies in Computer Science with specialization in Artificial Intelligence, Machine Learning, Computer Vision and Neural Computing.

EDUCATION

- **Bachelor of Engineering (Hons) in Computer Science** at Birla Institute of Technology and Sciences (BITS), Pilani , Rajasthan, India
Master of Sciences (Hons) in Mathematics at Birla Institute of Technology and Sciences (BITS), Pilani , Rajasthan, India
CGPA : 9.18 (3.6 / 4)
- **Intermediate Public Examination (12th Grade)** by Board of Intermediate Education, Andhra Pradesh at Little Flower Junior College, Uppal, Hyderabad, India.
Percentage : 94.6

AREAS OF INTEREST

- Artificial Intelligence : Learning, Reasoning
- Computer Vision : Image Processing, Video segmentation
- Neural Computing : Neural Networks, applications

RELEVANT COURSEWORK

Core courses (Computer Science)

Operating Systems
Computer Networks
Theory of Computation
Computers and Programming
Data Structures and Algorithms
Database Management Systems
Advanced Computer Organization
Digital Electronics and Computer Organization
Programming Languages & Compiler Construction

AI related courses

Artificial Intelligence
Machine learning
Image Processing
Neural Networks and Applications
Introduction to Bio-Informatics

Core Courses (Mathematics)

Other courses

Algebra 1
Algebra 2
Introduction to Topology
Graphs and Networks
Measures and Integration
Elementary Real Analysis
Introduction to Functional Analysis
Differential Geometry

Computers and Programming I&II
Microprocessors
Data Processing
Discrete Structures for Computer Sc
Linear Algebra
Numerical Analysis
Operations Research
Optimization Theory

SYSTEMS EXPERIENCE

Operating Systems UNIX, LINUX, Windows (all versions)

Programming Languages C, C++, Java, Verilog HDL, Assembly Languages 8085, 8086, LISP

Scripting Languages Sed, Awk, Perl, UNIX Shell Programming

Database Systems SQL, PL/SQL, Developer 2000

RESEARCH PROJECTS

1. Face Recognition (Phase one - using neural networks, Phase two - using eigenfaces)

Development of a robust face identification system that is able to match human faces under noisy environment. The project was modeled using two techniques - first one was an application of **neural networks** to face detection and recognition, a back propagation network was trained with human faces and then the neural network was able to mark face regions in a given image and also classify the faces detected.

The second phase involved the usage of a more robust **Eigenfaces algorithm**. This algorithm featured creation of face spaces for training face images. The test images were mapped onto the face spaces to classify them.

2. Fingerprint Recognition using neural networks

Development of a neural network based fingerprint matching system. This project involved usage of image processing techniques for the process of 'minutiae' extraction. Techniques of histogram equalization, grayscale to binary conversion, edge detection, weiner filtering, thinning, pruning and other preprocessing techniques were used.

3. Spam Email filtering

Implementation of a naïve bayes classifier to classify spam mails.

4. Personalization of Educational Videos

A novel idea to personalize and summarize educational material. Educational videos of universities are personalized to suit the varied user preferences based on set of generic rules.

5. Primer selection and sequence alignment

An application of Bio-informatics, this project features primer matching, finding cleaving sites, sequence search and sequence alignment.

ACCOMPLISHMENTS

- My project on Face **Recognition using Eigenfaces** was awarded the First Prize as the Best Conceptual, Best Application-oriented and Best overall project at APOGEE '03, a national academic festival organized by BITS,Pilani.
- Face Off – My project on **Face Recognition using Neural Networks** was nominated for presentation in CYBERFIESTA '02 a nation-wide software presentation conducted during APOGEE '02, a national academic festival organized by BITS, Pilani.
- My paper on **Rule Based Personalization of Educational Videos** was awarded the First Prize in the Computer Science category at the paper presentation held during APOGEE '04.

PROFESSIONAL EXPERIENCE

Lucas TVS Ltd, Chennai, India

I worked to implement a Web-based gauge information system. This project involved developing webpage interfaces for input and retrieval of information on gauges and also dealt with query and maintenance of Oracle database server. This project required demonstration of strong programming skills and working with ASP, VBScript, JavaScript and SQL and PLSQL query languages.

PUBLICATIONS

Ramnath, Krishnan, '**Rule Based Personalization of Educational Videos**', APOGEE 2004, Pilani, India