Siddharth Kherada

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Education

Year	Degree	Institute	CGPA
2007 - 2013	Btech(Hons) and MS By Research(CSE)	IIIT Hyderabad	7.8
2006	Senior Secondary(CBSE)	Modi Public school	81%
2004	Secondary(CBSE)	St Gregorios school	80%

Work Experience

2011 - 2013	Research Assistant in Center for Visual Information Technology(CVIT) lab at IIIT-H
2010	Teaching Assistant, Statistical Analysis in Artificial Intelligence(SSAI)
2009	Worked as Summer Intern in Center for Visual Information Technology(CVIT) lab.

Achievements

- Awarded Dean's Merit Award for Academic Excellence
- Presented 3D Texture Modeling in R&D showcase at IIIT-H
- Among the top 0.3% in AIEEE exam (All India Rank 2301)
- Among the top 0.9% in IIT JEE exam (All India Rank 5913)
- Received Award for being among the top 50 performers in the state in National Talent Search Examination(NTSE).
- Third position in Inter Batch Table Tennis Tournament

Publication

2013	"An ICA based Approach for Complex Color Scene Text Binarization" - in proceedings of IAPR Asian Conference on Pattern Recognition (ACPR)
2012	"Improving Realism of 3D Texture using Component Based Modeling" - in proceedings of IEEE Workshop on Applications of Computer Vision (WACV)

Major Projects

- **3D Texture Modeling**

  3D Textures are often described by parametric functions for each pixel that models the variation in its appearance with respect to varying lighting conditions. 3D Textures are a way to model relation between surface reflectance properties and illumination conditions. The use of 3D texture modeling results in enhanced realism of the scene. We proposed an approach to image based lighting interpolation which is based on estimates of geometry and shading from a set of input images.
  Guide: Prof Anoop Namboodiri
  Technical Environment: Matlab

- **Natural Scene Text Image Binarization**

  Binarization of text in natural scene images is a challenging task due to the variations in color, size, and font of the text and the results are often affected by complex backgrounds, different lighting conditions, shadows and reflections. We propose a method to extract and binarize text from images that contains complex background.
  Guide: Prof Anoop Namboodiri
  Technical Environment: Matlab

- **Image Search Engine**

  We implemented an image based retrieval system for an oxford building dataset. This uses BoW (Bag of Visual Words) approach and KNN classification to retrieve the images.
  Guide: Prof C V Jawahar
  Technical Environment: OpenCV (C++), Web technologies, Python

- **Movie Analysis and Abstraction**

  The goal was to segment the movie into different shots. Classify shots into day, night, mountain etc. scene using colour histograms, finding similar shots, face recognition, finding shot details using subtitles and movie script and displaying results on a dynamic web-page.
  Guide: Prof C V Jawahar
  Technical Environment : OpenCV (C++), FFMPEG, Python

Course Projects

Handwritten Character recognition (Pattern recognition Project), Graphics Design (Computer Graphics Project), Designing an ICS (Inventory Control System) for a commercial Supermarket (DBMS Project), Weather Forecasting (ITWS3 Project)

Programming Languages and Technologies

Programming	C, C++, Matlab
Operating Systems	Linux(Ubuntu) and Windows
Scripting	Python
Other Tools	OpenCV, OpenGL, LaTeX, MySQL, Vim, GitHub

Relevant Coursework

Computer Programming, Computer Vision, Image Processing, Computational Photography, Computer Graphics, Machine Learning, Pattern Recognition, Data Structures, Operating System, Algorithms, Artificial Intelligence, Software Engineering, Computer Network.