Siddhartha Chandra

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Education

2007–2013	**Bachelor of Technology (Honours) + M.S. by Research** **IIIT Hyderabad.** CGPA: 9.3/10
2006	**ISC XIIth Board** Overall Percentage: 94.0% *St. Joseph's College, Allahabad*
2004	**ICSE Xth Board** Overall Percentage: 95.4% *St. Joseph's College, Allahabad*

Research Positions

2013-today	**Research Assistant, INRIA, Ecole Centrale Paris** Research Advisors: Prof. Pawan Kumar M. & Prof. I. Kokkinos
2009-2013	**Research Assistant, Center for Visual Information Technology, IIIT Hyderabad** Research Advisor: Prof. C. V. Jawahar Primary Research Areas: Machine Learning, Computer Vision
2010-2011	**Research student visitor, Visual Geometry Group, University of Oxford**

Publications

2013	Siddhartha Chandra, Shailesh Kumar, C.V. Jawahar. **Learning Multiple Subspaces using K-RBMs** at *CVPR 2013, USA*
2012	Siddhartha Chandra, Shailesh Kumar, C.V. Jawahar. **Learning Hierarchical Bag of Words using Naive Bayes Clustering** at *Asian Conference on Computer Vision, Korea*
2012	Siddhartha Chandra & C.V. Jawahar. **Partial Least Squares Kernel for Computing Similarities between Video Sequences** *Oral Presentation, International Conference on Pattern Recognition, Japan*
2012	Vinay Garg, Siddhartha Chandra, C.V. Jawahar. **Sparse Discriminative Fisher Vectors in Visual Classification** *Oral Presentation, ICVGIP, India*
2010	Mayank Juneja, Siddhartha Chandra, Omkar Parkhi, C.V. Jawahar, Andrea Vedaldi, Marcin Marszalek, Andrew Zisserman. **Oxford/IIIT - TRECVID 2010 - Notebook paper**, *In Proceedings of the TREC Video Retrieval Workshop organized by NIST, USA*

Research Projects

3-D Modelling	**Modelling and Description of 3-D surfaces** Feature Extraction for Point Correspondences in 3-D meshes.
Feature Learning	**Feature extraction using Restricted Boltzmann Machines** K-RBMs for dense feature learning on natural images.
Clustering, Subspace Learning	**Non-linear subspace clustering using K-RBMs** A novel EM type "coupled" approach to clustering that employs K-Restricted Boltzmann Machines for learning multiple non-linear subspaces in data.
Bag of Words, Image Classification	**Naive Bayes clustering for learning Hierarchical Bag of Words** A novel Naive Bayes clustering method for clustering symbolic data to learn higher level visual words from low level visual words by aggregating symbols in a neighbourhood, thus enriching the BoW representation with spatial context.

Feature Learning	**Sparse Discriminative Fisher Vectors** A novel approach to creating sparse, discriminative Fisher Vectors.
Action Recognition	**Using Partial Least Squares Kernel for Action Recognition** PLS regression for computing similarity between two videos.
Detection, Category Retrieval	**TREC Video Retrieval** SIFT, Spatial Pyramids based Bag of Words representation with SVM classifiers for scene category retrieval and deformable part based models for object detection in videos.
Detection, Tracking, Recognition	**Detecting, Tracking and Recognizing Humans in Hollywood Movies** Deformable parts based model to detect human upper bodies in video frames, tracking, and recognition based on colour features.
Image Retrieval	**Similar Image Search** Colour features encoded into text; text search engine Lucene to index a database of images and retrieve images similar to a query image.
Video Clustering	**Clustering NEWS Videos based on Visual Content** Story segmentation on video feeds from NEWS channels, hierarchical clustering of colour features of video-stories.

Relevant Courses Taken

Research	Machine Learning, Computer Vision, Pattern Recognition, Digital Image Processing, Artificial Intelligence, Computer Graphics, Speech Systems
Other	Data Structures, Algorithms, Theory of Computation, Operating Systems, Computer Organization, Software Engineering, Database Management, Compilers, Computer Networks

Other Positions

- ⋆ Worked as a **System Administrator** for CVIT, IIIT Hyderabad. *Familiar with Sun-Grid Engine, among other Linux Administration tools.*
- ⋆ Worked as a **Teaching Assistant** for the following courses at IIIT Hyderabad through the $3^{rd} - 5^{th}$ year: **Computer Vision** (1 *semester*), **C Programming** (2 *semesters*), **Algorithms** (1 *semester*), **Information Technology** (2 *semesters*).

Skill Set

Programming	C, C++, Python, Java, Shell Scripting, Scheme, Brainfuck
Graphics Programming	Open GL, Open CV, MATLAB
Web Designing	HTML, DHTML, JavaScript, Ajax, CSS, Flash MX 2004, MS Expression Web
Server Side Programming	ModPython, CGI, PHP
Office Work	LaTeX, Open Office, MS Office

Acknowledgement

I state that the information in this document is true to the best of my knowledge.
