Siddhartha Chandra

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Education

2014–today	**PhD in Machine Vision** **INRIA Galen & Centrale-Supélec Paris**
2007–2013	**Bachelor of Technology (Honours) + M.S. by Research** **IIIT Hyderabad.** CGPA: 9.3/10
2006–2007	**AIEEE All India Rank** 2532 (99.64 percentile) **IIT All India Rank** 3879 (99.14 percentile)
2004–2006	**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

2014–today	**PhD Student, INRIA Galen & Centrale-Supélec Paris** Research Advisor: Prof. Iasonas Kokkinos
2009–2013	**Research Assistant, Center for Visual Information Technology, IIIT Hyderabad**
2010–2011	**Research student visitor, Visual Geometry Group, University of Oxford**

Research Activities, Interests

⋆ Deep Learning ⋆ Structured Prediction ⋆ Recurrent Networks

Publications

2016	**Deep, Dense, and Low-Rank Gaussian Conditional Random Fields.** Siddhartha Chandra, Iasonas Kokkinos. *ArXiV Report*
2016	**Fast, Exact and Multi-Scale Inference for Semantic Image Segmentation with Deep Gaussian CRFs.** Siddhartha Chandra, Iasonas Kokkinos. *ECCV, Netherlands*
2016	**Human Joint Angle Estimation and Gesture Recognition for Assistive Robotic Vision.** Alp Guler, Siddhartha Chandra, Iasonas Kokkinos et.al. *Oral, ECCV Workshop*
2015	**Accurate Human-Limb Segmentation in RGB-D images for Intelligent Mobility Assistance Robots.** Siddhartha Chandra, S. Tsogkas, I. Kokkinos. *Oral, ICCV Workshop*
2015	**Surface Based Object Detection in RGBD Images.** Siddhartha Chandra, Grigoris Chrysos, Iasonas Kokkinos. *Oral Presentation, BMVC, Wales*
2013	**Partial Least Squares Kernel for Computing Similarities between Video Sequences.** Siddhartha Chandra, C.V. Jawahar. *Oral Presentation, ICPR, Japan*
2013	**Sparse Discriminative Fisher Vectors in Visual Classification.** Vinay Garg, Siddhartha Chandra, C.V. Jawahar. *ICVGIP, India*
2012	**Learning Non-Linear Supspaces using K-RBMs.** Siddhartha Chandra, Shailesh Kumar, C.V. Jawahar. *CVPR, USA*
2012	**Learning Hierarchical Bag of Words using Naive Bayes Clustering.** Siddhartha Chandra, Shailesh Kumar, C.V. Jawahar. *ACCV, Korea*

Relevant Research Projects

Deep Learning	**Multi-Scale Inference for Dense-Labeling Tasks with Deep Gaussian CRF** Learning multi-scale pairwise interactions via Gaussian-CRFs for a variety of dense-labeling and regression tasks in an end-to-end deep learning architecture.

Human Pose ROS	**Real-Time Human Joint Angle Estimation** *(part of successfully concluded EU Project)* Research for **MOBOT** (EU Project): deep learning pipeline implemented for real-time performance on the Robotics Operating System.
Deep Learning	**Facial Landmark Localization using Deep Structured Prediction** End-to-end deep DPMs for face detection and landmark localization.
Deep Learning	**LSTMs for semantic segmentation** *(Ongoing)* Training conditional LSTMs for semantic segmentation.
Deep Learning	**Human part segmentation in RGB-D Images** Learning to parse humans in RGB-D images from diverse data using deep networks.
Pictorial Structures	**Surface based Object Detection for RGB-D Images** Emploing 3-D models for better initializing a mixture of Deformable Part Models.
3-D Modelling	**3-D Modelling and Description of 3-D surfaces** Modelling Feature Extraction for Point Correspondences in 3-D meshes
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.

Relevant Programming Projects

- ⋆ Efficient Implementation of the Conjugate Gradients Method for sparse, dense systems on the GPU in `Caffe` using `cudablas`, and `cudasparse` libraries.
- ⋆ `Caffe` Implementation for end-to-end training of Gaussian CRFs.
- ⋆ `Caffe` Implementation for end-to-end training of conditional Spatial-LSTMs.
- ⋆ Real-Time Human-Pose Estimation framework using `Caffe` and `ROS`.

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

- ⋆ Working as **System Administrator** for CVN, Centrale-Supélec Paris. *Setting up GPU servers.*
- ⋆ Worked as **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, Bash, MATLAB
Frameworks	`Caffe`, `ROS`, `Eigen`, `CUDA`, `SPAMS`
Server Side	ModPython, PHP