

# Puneet K. Dokania

<http://puneetkdokania.github.io>

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## Interests

Machine Learning, Inference, Vision

## Education

2012-Present **PhD Student.**

Institution: INRIA and CentraleSupélec

Advisors: Prof. M. Pawan Kumar and Prof. Nikos Paragios

2011-2012 **Master of Science with Specialization in Graphics Vision and Robotics.**

Institution: Ecole Nationale Supérieure d'Informatique et Mathématiques Appliquées, France

Advisors: Prof. Christian Laugier, Dr. Stéphanie Lefèvre, and Dr. Mathias Perrolaz

2005-2009 **Bachelor of Engineering in Computer Science.**

Institution: Delhi College of Engineering, University of Delhi, India

## Publications

### Journals

1. *Rounding-based Combinatorial Algorithms for Metric Labeling*, Under Submission, JMLR.

### Peer-Reviewed Conferences

1. *Parsimonious Labeling*, In ICCV 2015, Santiago, Chile.
2. *Learning to Rank using High-Order Information*, In ECCV 2014, Zurich.
3. *Discriminative parameter estimation for random walks segmentation*, In MICCAI 2013, Nagoya, Japan.
4. *Learning-Based Approach for Online Lane Change Intention Prediction*, In IEEE Intelligent Vehicles Symposium (IV'2013), Australia.
5. *Partial Linearization based Optimization for Structured SVM*, Under Submission, AIS-TATS, 2016.

### In Preparation

1. *Regularization Path for Structured SVM using Block-Coordinate Frank-Wolfe Algorithm.*
2. *Optimal Multi-Metric Deformable Registration using Latent Structured SVM.*

## Research Responsibilities

Reviewer: CVPR-15, MICCAI-15, ICVGIP-14, Journal CVIU, IEEE ITS, IET ITS

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## Honours and Awards

Gold Medal: Best Bachelor of Engineering project award in the college.

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## Technical Skills

Programming Languages C, C++, MATLAB  
Operation Systems Linux

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## Research Experiences

### Visiting Researcher, SIERRA Team, INRIA, Paris

Advisor: Dr. Simon Lacoste-Julien

Duration: 15th June to 15th Sept 2015 (3 months)

Project: Developed algorithm to obtain optimal regularization path for structured SVM using faster variants of the Block-Coordinate Frank-Wolfe algorithm.

### Masters Internship, eMotion Team, INRIA, Grenoble

Advisors: Prof. Christian Laugier, Dr. Stéphanie Lefèvre, and Dr. Mathias Perrolaz

Duration: Dec 2011 to May 2012 (6 months)

Project: Learning based approach for online lane change intention prediction for autonomous cars. Resulted in a reputed international conference paper.

### Research Scientist, Advanced Systems Laboratory, India

Duration: Dec 2009 to Aug 2011 (21 months)

Project: Worked on Kalman filter based navigation system using INS and GPS.

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## Teaching (Courses Assisted)

- *Coursera Course on Discrete Inference and Learning in Artificial Vision* by M. Pawan Kumar and Nikos Paragios, Jan - April 2014.
- *Introduction to Machine Learning*, Ecole Centrale Paris, Matthew Blaschko, 2012-13 and 2013-14.
- *Discrete Optimization*, Ecole Centrale Paris, M. Pawan Kumar, 2012-13.
- *Signal Processing*, Ecole Centrale Paris, Iasonas Kokkinos, 2012-13.

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## Summer Schools and Recent Courses Attended

- Machine Learning Summer School 2014, Reykjavik, Iceland.
- Computer Vision and Machine Learning Summer School 2013, Paris, France.
- *Deep Learning*, by Iasonas Kokkinos, 2014.
- *Probabilistic Graphical Models*, by Francis Bach and Guillaume Obozinski, 2013.
- *Kernel Methods for Learning*, by Jean-Phillipe Vert, 2013.
- *Convex Optimization*, by Alexandre d'Aspremont, 2014.
- *Discrete Optimization*, by N. Komodakis and M. Pawan Kumar, 2014.