Puneet K. Dokania

http://puneetkdokania.github.io

Center for Visual Computing
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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.
2. *High Dynamic Range Fuzzy Color Image Enhancement Using Ant Colony System*, In Journal of Applied Soft Computing, 2012. Impact 2.97.
3. *A Novel Bacterial Foraging Technique for Edge Detection*, In Pattern Recognition Letters, 2011. Impact 1.46.

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, Nogoya, 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, AISTATS, 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

Honours and Awards

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

Technical Skills

Programming Languages: C, C++, MATLAB

Operation Systems: Linux

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.

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.

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.