Puneet K. Dokania

http://puneetkdokania.github.io

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Interests

Machine Learning, Inference, Vision

Education

2012-16	**PhD in Computer Science and Applied Mathematics**.
Thesis:	High-Order Inference, Ranking, and Regularization Path for Structured SVM
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 Moves for Semi-Metric Labeling*, In JMLR 2016.
2. *High Dynamic Range Fuzzy Color Image Enhancement Using Ant Colony System*, In Journal of Applied Soft Computing, 2012.

Peer-Reviewed Conferences

1. *Partial Linearization based Optimization for Multi-Class SVM*, In ECCV 2016, Amsterdam, the Netherlands.
2. *Minding the Gaps for Block Frank-Wolfe Optimization of Structured SVM*, In ICML 2016, New York City, USA.
3. *Parsimonious Labeling*, In ICCV 2015, Santiago, Chile.
4. *Learning to Rank using High-Order Information*, In ECCV 2014, Zurich.
5. *Discriminative parameter estimation for random walks segmentation*, In MICCAI 2013.
6. *Learning-Based Approach for Online Lane Change Intention Prediction*, In IEEE Intelligent Vehicles Symposium (IV'2013), Australia.

Under Submission/ In Preparation

1. *Deformable Registration through Learning of Context-Specific Metric Aggregation*.

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

C, C++, MATLAB, 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.

References
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- Prof. M. Pawan Kumar, University of Oxford, pawan@robots.ox.ac.uk
- Prof. Nikos Paragios, INRIA and CentraleSupélec, nikos.paragios@ecp.fr
- Dr. Stephanie Lefevre, University of California Berkely, stlefevre@gmail.com