PUNEET KUMAR DOKANIA

http://cvn.ecp.fr/personnel/puneet/

INTERESTS

Thoeretical and practical problems related to Machine Learning, Computer Vision, Approximation Algorithms and Inference in Graphical Models. I am interested in almost every critical problems related to the above mentioned fields.

EDUCATION

Ecole Centrale de Paris and INRIA Scalay
Center for Learning and Visual Computing
PhD Candidate : October 2012 - **Present**
Supervisors: M. Pawan Kumar and Nikos Paragios

Ecole Nationale Suprieure d'Informatique et Mathmatiques Appliques, Grenoble, France
Master of Science in Informatics with specialization in Graphics, Vision and Robotics
Sept 2011 - July 2012
Delhi College of Engineering, University of Delhi, India
Bachelor in Computer Engineering, 2005 - May 2009
First Class Degree

EXPERIENCES

Masters Thesis — E-Motion Team, INRIA, Grenoble, France — Oct 2011 - June 2012
Learning based approach for online lane change intention prediction.

Research Scientist — Advanced Systems Laboratory, Govt. of India — Dec 2009 to Aug 2011
Worked on the navigation of Unmanned Aerial Vehicle using EKF based integration of INS and GPS. Published one conference paper.

Research Assistant — IIT Delhi, India — June 2009 to Nov 2009

Worked on the applications of Swarm Intelligence in the field of Robotics and Image Processing. Published two international journals and one international conference papers as the outcome of research conducted here.

Internship Student — AI and Computer Vision Lab, IISc Bangalore, India — June 2007 to 3rd Aug 07
Worked on the depth perception of a scene using Stereovision and developed an autonomous corridor navigator using stereovision camera. Implemented a simple probabilistic approach for obstacle avoidance.

Technical Head and Cofounder — Intelligent Ground Vehicle Team, Delhi College of Engineering, India — March 2007 to Nov 2008
This project was funded by DSIR, Govt. of India. I co-founded the team and worked as team co-head and technical head of this project. We developed an autonomous vehicle equipped with Stereo Vision camera, Laser range finder and GPS.

COMPUTER SKILLS

C, C++ and Matlab.

HONORS AND AWARDS

1. **Gold Medal**: Best Bachelor of Engineering project award in the whole college.
2. **Best Design Award**: Awarded by Mr. Greg Henderson (President SAE International) in an event CHIMERA 06 where my team developed an amphibian robot.
3. The only student in India who was recommended by the Ministry of HRD for the Commonwealth Scholarship Fellowship Plan, UK 2010 for PG in Computer Science.

PROFESSIONAL TRAININGS AND RECENT COURSES

1. Machine Learning Summer School 2014, Reykjavik, Iceland.
2. Computer Vision and Machine Learning Summer School 2013, Paris, France.
3. Some recent courses that I attended in ENS Cachan
   - *Probabilistic Graphical Models*, by Francis Bach and Guillaume Obozinski.
   - *Kernel Methods for Learning*, by Jean-Phillipe Vert.
   - *Convex Optmization*, by Alexandre d'Aspremont.
   - *Statistical Learning Theory*, by Nicolas Vayatis.

TEACHING

1. I was a TA in the **Coursera Course** *Discrete Inference and Learning in Artificial Vision* by M. Pawan Kumar and Nikos Paragios, Jan - April 2014.
2. Other courses that I assisted are:
   - *Introduction to Machine Learning*, Ecole Centrale Paris, Matthew Blaschko, 2013-14.
   - *Discrete Optimization, Ecole Centrale Paris*, M. Pawan Kumar, 2012-13.
   - *Signal Processing*, Ecole Centrale Paris, Iasonas Kokkinos, 2012-13.
   - *Introduction to Machine Learning*, Ecole Centrale Paris, Matthew Blaschko, 2012-13.

PUBLICATIONS IN JOURNALS

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

PUBLICATIONS IN CONFERENCES (See my website for complete list)

1. *Learning to Rank using High-Order Information*, In ECCV 2014, Zurich
2. *Discriminative parameter estimation for random walks segmentation*, In MICCAI 2013, Nogoya, Japan
3. *Learning-Based Approach for Online Lane Change Intention Prediction*, IEEE Intelligent Vehicles Symposium (IV'2013), Australia
4. *A Novel Approach for Edge Detection using Ant Colony Optimization and Fuzzy Derivative Technique*, IEEE IACC-09, 2009, pp 1427-1433.
5. *Probabilistic approach for Autonomous Navigation using Stereo Vision*, ICSTE 09.
6. Technical Report *LAKSHYA The Unmanned Ground Vehicle Design Report*, Intelligent Ground Vehicle Competition (IGVC), USA, 2008, www.igvc.org/design/reports/dr238.pdf.

REFERENCES

Available on demand.

– Resume udated on October 18, 2014 –