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Shell Xu Hu

Research Interests

Machine Learning	Probabilistic Graphical Models, Convolutional Neural Networks, Variational Inference
Optimization	Proximal Algorithms, Coordinate Decent Algorithms, Frank-Wolfe Algorithms
Computer Vision	3D Semantic Segmentation, Deep Generative Models, Inverse Graphics

Education

2015.3–now	PhD in Machine Learning and Computer Vision , <i>École des Ponts ParisTech</i> , France.
2012.9–2015.3	Master in Computer Science , <i>Oregon State University</i> , USA.
2011.9–2012.9	Master in Computer Vision and Artificial Intelligence , <i>Universitat Autònoma de Barcelona</i> , Spain.
2006.9–2010.7	Bachelor in Software Engineering , <i>Hangzhou Dianzi University</i> , China.

Projects

2015.10–now	Fast Inference-free Algorithms for CRF Learning , with Guillaume Obozinski at <i>École des Ponts</i> .
2015.5–now	Semi-supervised Semantic Segmentation for Urban Scenes , with Guillaume Obozinski at <i>École des Ponts</i> .
2013.7–2015.5	Tree-Cut for Image Segmentation , with Chris Williams and Sinisa Todorovic at <i>Oregon State University</i> , code .
2012.11–2015.3	Next Generation Phenomics for Tree of Life , with Sinisa Todorovic and Tom Dietterich at <i>Oregon State University</i> , project webpage .
2014.5–2014.10	Structured Output Learning with Approximate Inference , with Jiaolong Xu in <i>Google Summer of Code 2014</i> , ipython notebook .
2013.5–2013.10	Large Scale Learning of General Structured Output Models , with Patrick Pletscher in <i>Google Summer of Code 2013</i> , ipython notebook .

2011.10–2012.9 **Towards Real-Time Part-Based Pedestrian Detection**, with Marco Pedersoli and Jordi Gonzalez at Universitat Autònoma de Barcelona, [code](#).

Papers

- S. X. Hu, C. K. I. Williams and S. Todorovic, **Tree-Cut for Probabilistic Image Segmentation**, Posted on arXiv 11 June 2015.
- S. X. Hu, S. Todorovic, **The Bag-of-Words Revisited: Latent Semantic Pooling for Scene Classification**, Tech. Report 2014.
- M. Pedersoli, S. X. Hu, J. Gonzalez and X. Roca, **Towards a Real-Time Pedestrian Detection based only on Vision**, IEEE Transactions on Intelligent Transportation System, 2014.
- S. X. Hu, M. Lam, S. Todorovic, T. G. Dietterich, A. Cirranello, P. Velazco, N. Simmons, M. O’Leary, **Zero-Shot Learning and Detection of Teeth in Images of Bat Skulls**, ICCV Workshop on Computer Vision for Accelerated Bioscience, 2013.
- M. Q. Lam, J. R. Doppa, S. X. Hu, A. Reft, S. Todorovic, T. G. Dietterich, M. Daly, **Learning to Detect Basal Tubules of Nematocysts in SEM Images**, ICCV Workshop on Computer Vision for Accelerated Bioscience, 2013.
- J. Xu, S. Ramos, S. X. Hu, D. Vázquez and A. M. López, **Multi-task Bilinear Classifiers for Visual Domain Adaptation**, NIPS Workshop on New Directions in Transfer and Multi-Task: Learning Across Domains and Tasks, 2013.
- S. X. Hu, C. Jiang, W. Zhang, J. Zhang, R. Yu, C. Lv, **An Event Based GUI Programming Toolkit for Embedded System**, APSCC, 2010.
- Y. Zhao, C. Jiang, S. X. Hu, **Remote Sensing Image Processing Based On CUDA Platform**, IEEE International Conference on Remote Sensing, 2010.

Teaching

- Fall 2015 **Teaching Assistant**, *Probabilistic Graphical Models*, Master in Mathématiques / Vision / Apprentissage, Ecole Normale Supérieure de Cachan.
- Fall 2011 **Teaching Assistant**, *Fundamentals of Informatics*, Department of Computer Science, Universitat Autònoma de Barcelona.

Jobs

- 2010.7–2011.7 **Research Engineer**, *Grid and Service Computing Lab*, Hangzhou Dianzi University.
- 2009.10–2010.4 **Intern**, *Huawei Technologies Co. Ltd.*.
- 2008.11–2009.5 **Intern**, *NewMsg Technologies Co. Ltd.*.