

UNIVERSITY OF SOUTH FLORIDA

Defense of a Master's Thesis

Label Noise Cleaning Using Support Vector Machines

by

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For the MSCS degree in Computer Science & Engineering

Mislabeled examples affect the performance of supervised learning algorithms. Two novel approaches to this problem are presented in this Thesis. Both methods build on the hypothesis that the large margin and the soft margin principles of support vector machines provide the characteristics to select mislabeled examples. Extensive experimental results on several datasets support this hypothesis. The numbers of examples that need to be reviewed can be reduced by creating a two-class SVM classifier with the non-support vector examples, and then by only reviewing the support vector examples based on their classification score from the classifier. The parameter independence of this method is also verified through the experiments. All the experimental results show that most of the label noise examples can be removed by (re)examining the selective support vector examples. This property can be very useful while building large labeled datasets.

Tuesday, February 09, 2016

10:00 AM

ENB 313

THE PUBLIC IS INVITED

Examining Committee

Lawrence Hall, Ph.D., Major Professor

Rangachar Kasturi, Ph.D.

Dmitry Goldgof, Ph.D.

Robert Bishop, Ph.D.
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