

UW CENTER FOR PATTERN ANALYSIS AND MACHINE INTELLIGENCE

GRADUATE SEMINAR SERIES

Early Internet Traffic Recognition Based On Machine Learning Methods

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Date: May 9, 2012

Time: 4:30 pm – 5 pm

Place: E5 (5128) Refreshments will be served

Abstract :

The need to quickly and accurately classify Internet traffic for various traffic shaping purposes and security reasons has been growing steadily. This is due to the many new applications that have been taken place in the field of Internet traffic. As conventional port number based and packet payload based methods are no longer adequate, pattern recognition by learning the statistical flow-based features in the training samples to classify the unknown flows has become popular. The applied method should be fast enough to identify the traffic type in real time before the entire flows are finished. This paper proposes a supervised machine learning based method to identify 7 different types of Internet applications. Our proposed system is able to detect the flows application types after observing just a few first packets in each flow in order to run in real time. The overall accuracy of 84.9% was achieved which is a promising result.