

12/7/2009

We would like to thank all the reviewers who served in the selection committee for their hard work:

Yoonsuck Choe, Texas A&M University
Yongdae Kim, University of Minnesota at Twin Cities
Bong Jun Ko, IBM T.J. Watson Research Center
Jongwook Woo, California State University-Los Angeles
Jungwoo Ryoo, The Pennsylvania State University-Altoona (Chair)

This year we have received many high quality applications. I am pleased to announce the following recipients for the 2008 KOCSEA/Moon Jung Chung Scholarship/Poster Competition.

First Place: **Tae Hyun Hwang**, University of Minnesota-Twin Cities, Department of Computer Science and Engineering

Prize: \$1,000

Poster Title: A hypergraph-based learning algorithm for classifying gene expression and arrayCGH data with prior knowledge

Poster Abstract: *Building reliable predictive models from multiple complementary genomic data for cancer study is a crucial step towards successful cancer treatment and a full understanding of the underlying biological principles. To tackle this challenging data integration problem, we propose a hypergraph-based learning algorithm called HyperPrior to integrate multiple genomic data for cancer outcome prediction and biomarker identification. HyperPrior is a robust two-step iterative method that alternatively finds the optimal outcome prediction and the optimal weighting of the marker guided by prior knowledge. Our experimental results on large-scale cancer datasets show that HyperPrior utilizing prior knowledge achieves significantly improved cancer outcome prediction. Moreover, HyperPrior can also retrieve many known cancer genes and chromosome regions as highly weighted cancer biomarker.*

Runner-up One: **Gunwoo Nam**, The Pennsylvania State University, Department of Computer Science and Engineering

Prize: \$500

Poster Title: Dynamic Deficit Round-robin Scheduling for Scalable Management of High-volume Users/flows

Poster Abstract: *In this poster, we first give an overview of the economic and traffic conditions of residential broadband Internet access in the United States, with a focus on Comcast's multiple priority approach to congestion control for its cable modem termination system (CMTS). We consider different scalable implementation frameworks based on deficit round-robin (DRR) scheduling that can achieve such congestion control effects. Deficit round robin is a practical framework that has been deployed by industry in high-speed routers. DRR is work-conserving (non-idling), provably weighted "fair" to jointly active users. We compare the Comcast framework to alternative proposals, including those based on usage based pricing and quotas. The security overhead and potential network security benefits of usage-based systems are also explored.*

Runner-up Two: **Jiryang Chung**, Texas A&M University-College Station, Department of Computer Science and Engineering

Prize: \$500

Poster Title: Evolution of Memory in Neural Networks

Poster Abstract: *In the neuronal circuits of natural and artificial agents, memory is usually implemented with recurrent connections, since recurrence allows past agent state to affect the present behavior. However, primitive animals with simple feed-forward neural network circuits may have been limited to reactive behavior. Evolutionary biologists suggest that behavioral changes predate morphological changes. Then what behavior can be the precursor for the recurrent memory of current brain? Our hypothesis is that internalization of external material interaction, the use of chemical markers, can be the plausible evolutionary path leading to a fully internalized memory system of current animals.*

Jungwoo Ryoo, Ph.D., CISSP

2009 KOCSEA-Moon Jung Chung Scholarship/Poster Competition Committee Chair