*Subset Selection and Classification *

by

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Bogazici University, South Campus,

Engineering Building

Roof Floor

Abstract:

The goal of subset selection algorithms is to uncover the most compact representation of a signal in terms of vectors drawn from a given redundant dictionary of reference signals. Several variations on the subset selection problem have been proposed in the past few years. Preliminary data shows that subset selection may lead to faster methods for acquiring signals in certain applications.

In this talk, I will provide an overview of subset selection techniques and highlight some of their applications in signal acquisition and separation. I will then discuss several extensions of the theory that address challenges in signal classification problems. I will highlight the relative merits and limitations of each proposed extension and compare its performance to that of other classification techniques. The comparisons mostly focus on food quality assessment scenarios.

Short Biography:

Ahmed Tewfik received his B.Sc. degree from Cairo University, Cairo Egypt, in 1982 and his M.Sc., E.E. and Sc.D. degrees from the

Massachusetts Institute of Technology, Cambridge, MA, in 1984, 1985 and 1987 respectively.

Dr. Tewfik has worked at Alphatech, Inc., Burlington, MA in 1987. He

is the E. F. Johnson professor of Electronic Communications with the

department of Electrical Engineering at the University of Minnesota.

He served as a consultant to MTS Systems, Inc., Eden Prairie, MN and

Rosemount, Inc., Eden Prairie, MN and worked with Texas Instruments

and Computing Devices International. From August 1997 to August 2001,

he was the President and CEO of Cognicity, Inc., an entertainment

marketing software tools publisher that he co-founded, on partial leave of absence from the University of Minnesota.