



McMaster University



University of Toronto



University of Waterloo

## THE FIELDS INSTITUTE FOR RESEARCH IN MATHEMATICAL SCIENCES

### DIRECTOR'S SEMINAR

#### SPEAKER:

**ROBERT TIBSHIRANI**  
Department of Preventive Medicine and Biostatistics  
and Department of Statistics  
University of Toronto

#### On the Topic:

### "Handwritten Digit Recognition via Deformable Prototypes"

We present a new method for classifying handwritten characters, in particular digits. In our approach each character in the alphabet is represented by a prototype, which is a piecewise-linear curve. A prototype is fitted to a point-set representation of the image by least squares, allowing a free affine transformation in  $R^2$ . Every prototype is fitted to a given image, and then classification is based on the matching statistics. The procedure is demonstrated on a large database of handwritten zipcodes.

This is joint work with Trevor Hastie of AT&T Bell Laboratories.

**Monday, May 3, 1993**

**4:00 pm, room 3018**

**at**

**The Fields Institute**

**Refreshments 3:00 pm, Common Room**

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