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Preface

There are vast and important applications for machines that can mimic the human visual sense and judgment capabilities. One of the greatest potential contributions of optics technology is in the area of pattern recognition. Recent advances in correlator design and spatial light modulator technology have increased the interest in this field. This critical review program was dedicated to optical implementation of pattern recognition techniques. It was intended to provide a forum for the discussion of present and future research and development activities in optical information processing systems applied to pattern recognition.

This conference comprised four sessions, with fifteen papers. The morning presentations included optimization techniques applied to pattern recognition, neural network approaches in pattern recognition, rotation-invariant pattern recognition, system requirements for optical correlators, and photorefractive devices in pattern recognition. The afternoon presentations included nonlinear techniques in optical pattern recognition, nonlinear joint transform correlators, devices for optical pattern recognition, optical correlator design parameters, and normalization issues in optical correlators.

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