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Amsterdam, September 4, 1985

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To  :  IMIA

From:  Jan H. van Bemmel

Re  :  Working Group Biomedical Pattern Recognition WG7
       Working Conference Pattern Recognition in Practice II

Subject:  Status report
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The activities of WG7 were till now mainly restricted to the
exchange of information in the field,by means of working
conferences. The first one, Pattern Recognition in Practice I,
took place in June 1980, the second one on June 19-21, 1985
in Amsterdam. There were around 80 participants from all over
the world.
The appendix shows the program contents. All discussions were
taped and drafted during the Conference. The Proceedings are
ready and are being printed by North Holland.
It was the outcome of this Conference, that Pattern Recognition
and Artificial Intelligence are coming closer together.
There will be made another proposal in due time for another
working conference, where this relationship becomes even more
apparent.

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Encl.
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PATTERN RECOGNITION IN PRACTICE II

AMSTERDAM, JUNE 19-21, 1985

WEDNESDAY, JUNE 19 (HORNING)

Chairpersons: E. Backer
              Unknown

09:45 - 10:00 OPENING

10:00 - 11:40 IMAGE PROCESSING

- S. Basu, K.S. Fu, A syntactic approach to image segmentation.

- P.A. Devijver. Probabilistic labeling in a hidden second order Markov mesh.

- J.J. Gerbrands, E. Backer, W.A.G. van der Hoeven, Quantitative evaluation of edge detection by dynamic programming.

- P. Saint-Jean, V. von Hagen, G. Koper, J.S. Ploem, A pretopological texture model, a multiparametric image model and a hierarchical classification method for the analysis of digitized images.

- R.C. Mann, B.K. Mansfield, J.K. Selkirk, Automated analysis of digital images generated by two-dimensional gel electrophoresis.

11:40 - 12:00 COFFEE BREAK

Chairpersons: F.C.A. Groen
              A. Oosterlinck

12:00 - 13:00 MISCELLANEOUS

- G.T. Toussaint, New results in computational geometry relevant to pattern recognition in practice.

- L.O. Hertzberger, A. Choudry, Abstract data types and multi-processor architecture for image processing.

13:00 - 14:00 LUNCH

WEDNESDAY. JUNE 19 (AFTERNOON)

Chairpersons: L.N. Kanal
              G. Sagerer

14:00 - 16:00 KNOWLEDGE BASED SYSTEMS

- G. Nagy, S.C. Seth, S.D. Stoddard. Document analysis with an expert system.

- G. Stein, H. Tropf, I. Walter, Interpretation of industrial scenes using augmented transition networks and production systems: procedural vs. declarative models.

- I. Hofmann, H. Niemann, G. Sagerer, Model based interpretation of image sequences from the heart.

16:00 - 16:20 COFFEE BREAK

Chairpersons: G. Nagy
              E.S. Gelsema

16:20 - 17:50 PATTERN RECOGNITION AND ARTIFICIAL INTELLIGENCE

- B. Chandrasekaran, Artificial intelligence approach to classification.

- L.N. Kanal, Uncertainty, belief, evidence and consensus.

SCIENTIFIC PROGRAM
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<u>THURSDAY, JUNE 20 (MORNING)</u>

<u>Chairpersons:</u> P.A. Devijver
                     B. Dubulsson

<u>09:00 - 11:00 STATISTICAL PATTERN RECOGNITION 1</u>

- S.D. Morgera, Computational complexity and VLSI implementation of an
  optimal feature selection strategy.

- M. Sjöström, S. Wold, Partial least squares modelling with latent
  variables: a tool for illustrating pattern recognition data.

- E. Diday, P. Bertrand, An extension of hierarchical clustering: the
  pyramidal presentation.

- L. Kaufman, P.J. Rousseeuw, Clustering large data sets.

<u>11:00 - 11:20 COFFEE BREAK</u>

<u>11:20 - 13:00 MODELS</u>

- R. Wu, H. Stark, Rotation-invariant pattern recognition using
  optimum feature extraction.

- H.S. Tan, J.T.W. Damen, Shape classification based on dynamic
  modelling procedure.

- M. Dhome, M. Richetin, G. Rives, Model based recognition and
  location of local patterns in polygonal contours via hypothesis
  accumulation.

- M.M. Jordan, W.J. Perkins, Use of models in the recognition of
  patterns of cellular movement.

<u>13:00 - 14:00 LUNCH</u>

SCIENTIFIC PROGRAM
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<u>THURSDAY. JUNE 20 (AFTERNOON)</u>

<u>Chairpersons:</u> J.H. van Bemmel
                     Unknown

<u>14:00 - 16:00 MISCELLANEOUS APPLICATIONS</u>

- M. Takagi, Data collection and processing systems for meteorological
  satellite (NOAA).

- J.A. Parikh, Automated techniques for extraction of geological
  fracture patterns.

- E. Persoon, Hierarchical correlation for fast industrial object
  location.

- P. Suetens, A. Oosterlinck, Industrial pattern recognition.

- F.C.A. Groen, R.J. van Munster, Computer aided analysis of schematic
  diagrams.
- B. Dubuisson, P. Malvache, D. Grenier, The use of pattern recognition
  in order to improve fast nuclear reactor monitoring.

<u>16:00 - 16:20 COFFEE BREAK</u>

<u>Chairpersons:</u> J. Kittler
                     S.D. Morgera

<u>16:20 - 17:50 STATISTICAL PATTERN RECOGNITION II</u>

- W. Pedrycz, Techniques of supervised and unsupervised pattern
  recognition with the aid of fuzzy set theory.

- J.L. Talmon, A multiclass nonparametric partitioning algorithm.

- A. Bietti, A. Burani, L. Zanello, Present status of ISPAHAN
  applications at the University of Rome (Italy).

FRIDAY. JUNE 21 (MORNING)

Chairpersons: J.J. Gerbrands
              Unknown

09:00 - 11:00 3-D RECONSTRUCTION

- T. Kaminuma, R. Minamikawa, I. Suzuki, 3D reconstruction of spatio-temporal series of optical pictures.

- G.C. Stockman, Three-dimensional pose computations from multiple views.

- L.G. Shapiro, T.-C. Pong, The use of pattern recognition to estimate three-dimensional shape from topographic labeling of images.

- R.M. Bolle, D.B. Cooper, Optimal statistical techniques for combining pieces of information applied to 3-D complex object position estimation.

- G. Harauz, M. van Heel, Direct 3D reconstruction from projections with initially unknown angles.

- W. Abmayr, U. Heinzmann, Analysis of histological serial sections.

11:00 - 11:20 COFFEE BREAK

Chairpersons: L.G. Shapiro
              Unknown

11:20 - 13:00 NON-LINEAR FILTERING

- I.T. Young, G.L. Beckers, L. Dorst, A. Boerman, Choosing filter parameters for non-linear Image filtering.

- D. Bosman, H. Boterenbrood, H. van Huijstee, Two non-linear image enhancement algorithms.

- J. Blemond, Image restoration as an identification and filtering problem.

- U. Good, Local transformations to simulate crystal growth.

13:00 - 14:00 LUNCH

FRIDAY, JUNE 21 (AFTERNOON)

Chairpersons: B.H. Mayall
              G. Burger

14:00 - 16:00 BIOMED1CAL APPLICATIONS

- G. Burger, U. Jütting, Specimen classification in cytometry: an intercomparison of various means of decision making.

- A.W.M. Smeulders, Non parametric population classification.

- H. Harms, H.M. Aus, Computer colour vision: Automated segmentation of histological tissue sections.

- J. van Ommeren, C.J. Kooijman, R.J. van Meenen, J.J. Gerbrands, A.V.M.C.L. Schulte, J.H.C. Reiber, Artery detection and analysis in cine-angiograms.

- M. van Heel, Finding the characteristic views of molecules in extremely noisy electron micrographs.

16:00 - 16:20 COFFEE BREAK

Chairpersons: R.S. Ledley
              I.T.Young

16:20 - 17:00 PRECISION OF MEASUREMENTS

- W. Forstner, A. Pertl, Photogrammetric standard methods and digital image matching techniques for high precision surface measurements.

- P.J. van Otterloo, Measurement and measurement precision in segmented images.

- L. Dorst, A.W.M. Smeulders, Length estimators compared.